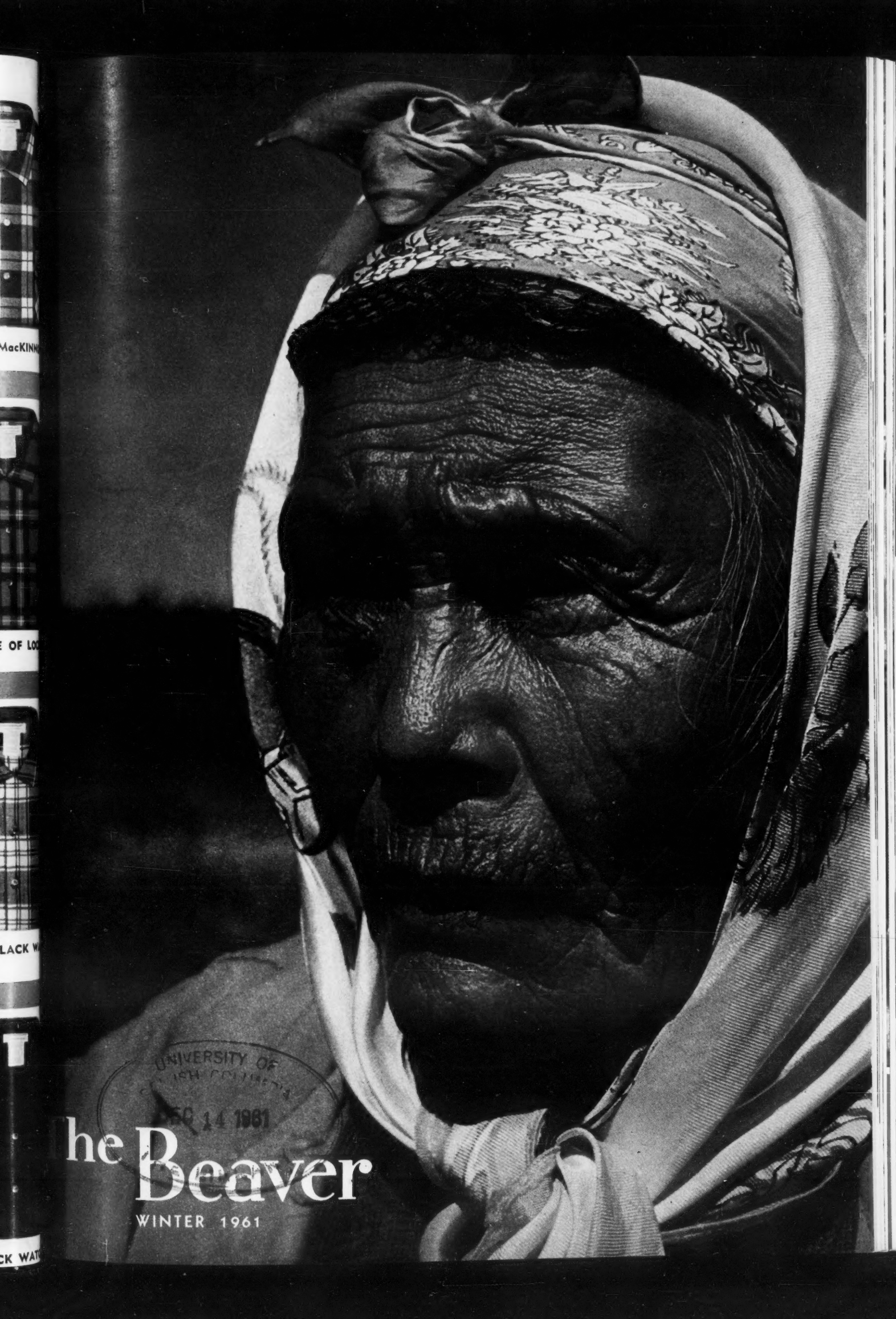

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The Beaver

WINTER 1961

THE UNCHANGED STANDARD: "choice goods as can be bought for money

"Moreover it is much to our credit to
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so that the Indians may see our stre
and receve our goods betimes and go
away satisfied, up into the country a
give intelligence to the other Indians
of their quick dispatch and good usag

REPORT TO THE GOVERNOR AND COMMITTEE BY GOVERNOR JOHN NIXON

Hudson's Bay Compa

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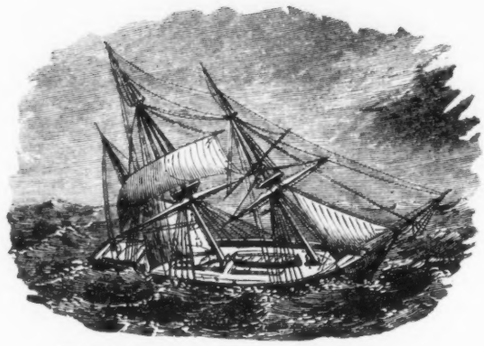
The Beaver

MAGAZINE OF THE NORTH

Editor: Malvina Bolus



H. M. S. Resolute in the North Atlantic

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Myra Kay, wife of Old Crow catechist Joseph Kyikavichik, is 73 and in the prime of life by local standards.

Photograph by Richard Harrington

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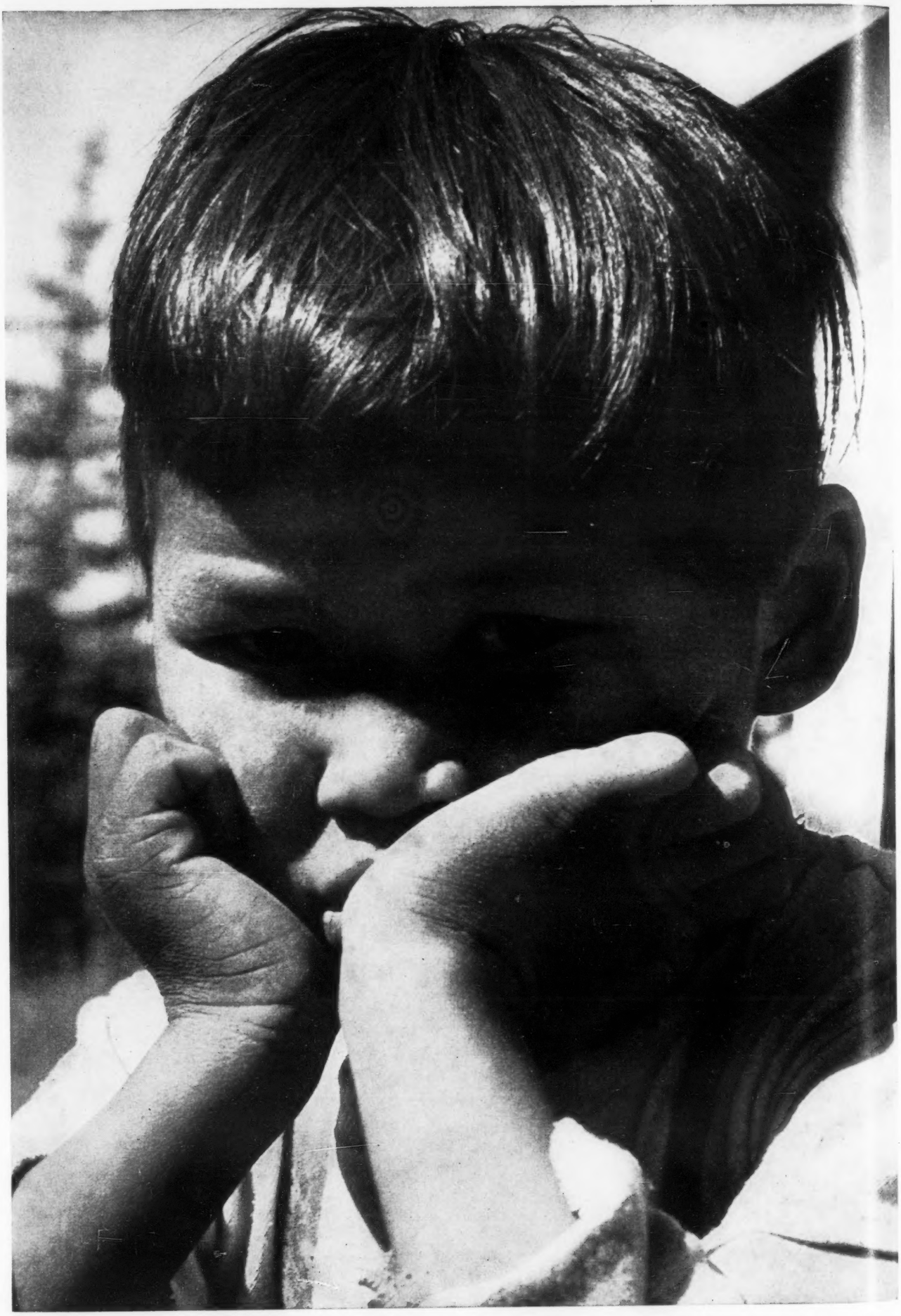


Wheeler Michael Ken Netro, 3½, son of Joe Netro, insists on going to nursery school every day in summer to become familiar with English words.

YUKON'S ARCTIC VILLAGE

OLD CROW

Peter Moses dons the Chief's cap he wore for seventeen years.

By Lyn Harrington

Photographs by Richard Harrington

THE chartered aircraft raced over the Yukon River, and took off, shaking the muddy water from its pontoons. As it rose, I could see the neat patterns of Dawson's streets, the derelict sternwheelers rotting on the flats, and the worm-like gravel heaps left by gold dredges in the Klondike River.

Then we swung northward, over grasslands and spruce forests on our way to Old Crow, 250 miles due north on the Porcupine River. Few residents of Yukon have visited Old Crow, yet a note of affection creeps into voices when they speak of it. They feel this Indian village is healthier, better-organized and more vigorous than most, its people dignified and self-reliant. My husband and I found it so.

Sunny windless weather prevailed throughout our five-day visit, though we flew into a July snowstorm in a pass between the sharp peaks of the Ogilvie Mountains. What if we had to make a forced landing? I noted with dismay that the rivers below were shrunken and meandered like unravelled yarn. It was a long dry hop, nearly three hours before any water of sufficient size appeared.

This was the Porcupine River itself, 75 miles above the Arctic Circle. Old Crow lay on the north bank, its log buildings, two and three deep, strung out for nearly half a mile. Long before we could see it—or before its residents could see us—the huskies staked on the beach heralded our approach.

Every able-bodied person in the settlement was down at the new landing-dock to greet the plane, for it carried the Anglican Bishop of Yukon on his annual visit, two members of the local Women's Auxiliary back from a convention in Whitehorse, and us two tourists. Old Crow has few visitors and no hotel. The Rev. George Hamilton soon settled Bishop Greenwood in the rectory, and us in the unoccupied teacherage.

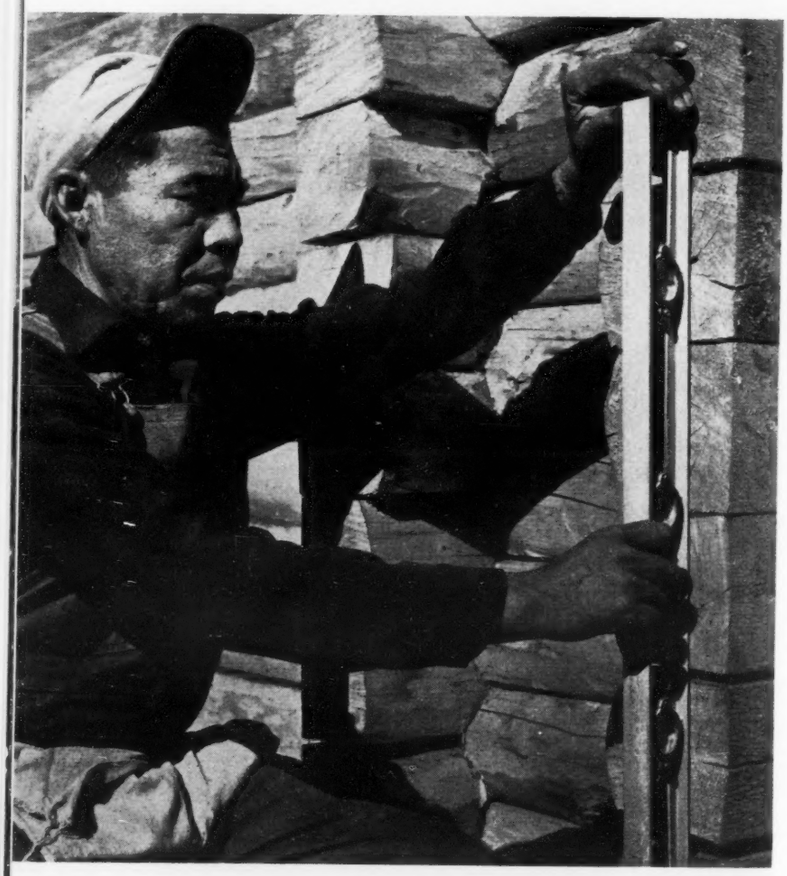
Old Crow has been termed the most isolated mainland settlement in the Canadian north. Ordinarily, it sees only the monthly mail plane and the annual river-boat loaded with supplies. In fact, the village was so cut off that until February 1959, mail was carried by an Alaskan airline and bore American postage. Once the association with Alaska was even closer. The Loucheux or Kutchin tribe spread from the Mackenzie Valley far down the Yukon River. Old Crow Indians were originally located at Fort Yukon, 200 miles downstream, where the Porcupine joins the Yukon. There the Hudson's Bay Company opened a trading post in 1847.

After Alaska was sold to the United States of America, the post was moved in 1869 eastward up the Porcupine to Old Rampart House. Great was the annoyance of the Company and the Indians, twenty years later, to discover they were still 30 miles inside American territory. This time they watched the surveyors mark the border, then moved across it into Yukon Territory.

New Rampart House flourished until a blighting smallpox epidemic occurred in 1911. The Canadian government built a hospital on a nearby island, saving many lives. But the following years, the Indians burned the contaminated houses and moved another 40 miles up-

The Canadian team of Mr. and Mrs. Harrington write and photograph their way around the world.

Bishop Greenwood greets parishioners on Sunday while Indian deacons and Rev. George Hamilton look on.



Albert Abel, brother of the Chief, at work on the new log school.

stream to where the Old Crow River flows into the Porcupine. In time, a mission church and school, and later a Mounted Police post, encouraged the people to concentrate here.

The Porcupine and its tributary the Bell River formed a direct northern route between Fort Yukon and Fort McPherson, east of the Richardson Mountains, with La Pierre's House, a relay post in between. In 1893, however, the Hudson's Bay Company closed Rampart House, which was taken over in 1904 by an independent trader, Scottish Dan Cadzow. Old Crow now has two storekeepers, one French, the other Joe Netro, a Loucheux Indian.

"Joe orders his supplies in bond from Vancouver," said Neil McDonald, his assistant. "Then he takes his boat down to Fort Yukon to pick them up, four trips a summer. He's got to time it right, to get through the rapids and sandbars between too-high and too-low water."

Other supplies come from Dawson by barge, 600 river-miles away. Occasionally a plane-load of supplies is brought by an Alaskan airline, or from Aklavik in the Mackenzie Valley. Naturally, such freighting boosts costs, so that cigarettes cost 50 cents a package, and oranges, when available, are $3 a dozen. The Old Crow Indians depend increasingly upon store goods, though caribou is their mainstay. A few moose are sighted

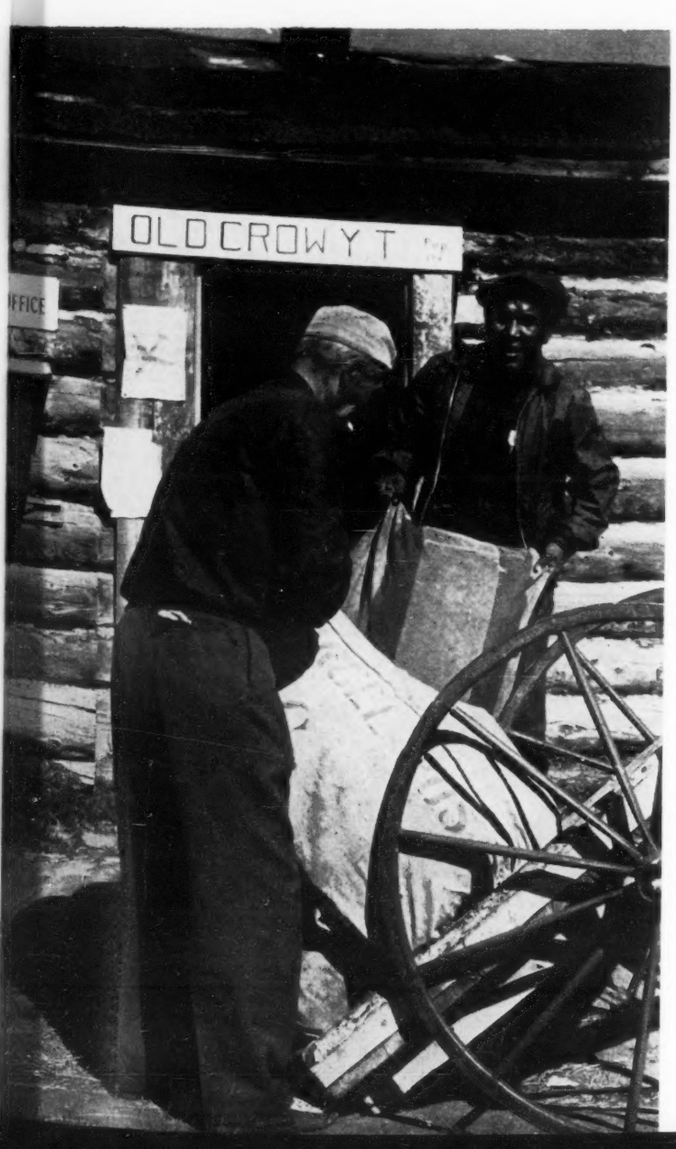
locally, and in spring, muskrat meat provides a nourishing protein diet.

Traplines range great distances through the forested areas, but muskrat trapping is a family affair. A few miles north, the Crow Flats spread over many square miles of lake and marsh, to provide a bountiful harvest of pelts, some 10,000 being shipped out in 1960.

Old Crow's contact with the white man has not been sudden, and evidently not unpleasant. Robert McDonald went as Anglican missionary to these Indians in 1862, married a gentle Loucheux woman and produced several children, Neil among them. Archdeacon McDonald translated hymns, the Bible and Book of Common Prayer into Tukudh, the written language of the Loucheux people. To date, the old Crow band has been loyal to Anglican teachings, though two Oblate missionaries established a mission here in 1950. The white residents are in good accord with one another, and show sympathy, understanding and respect for the Indians.

The Oblates introduced organized sport, beginning with a baseball diamond which proved popular. Father

By her summer home, Mrs. Sarah Abel holds a caribou skin she has scraped but not yet smoked.



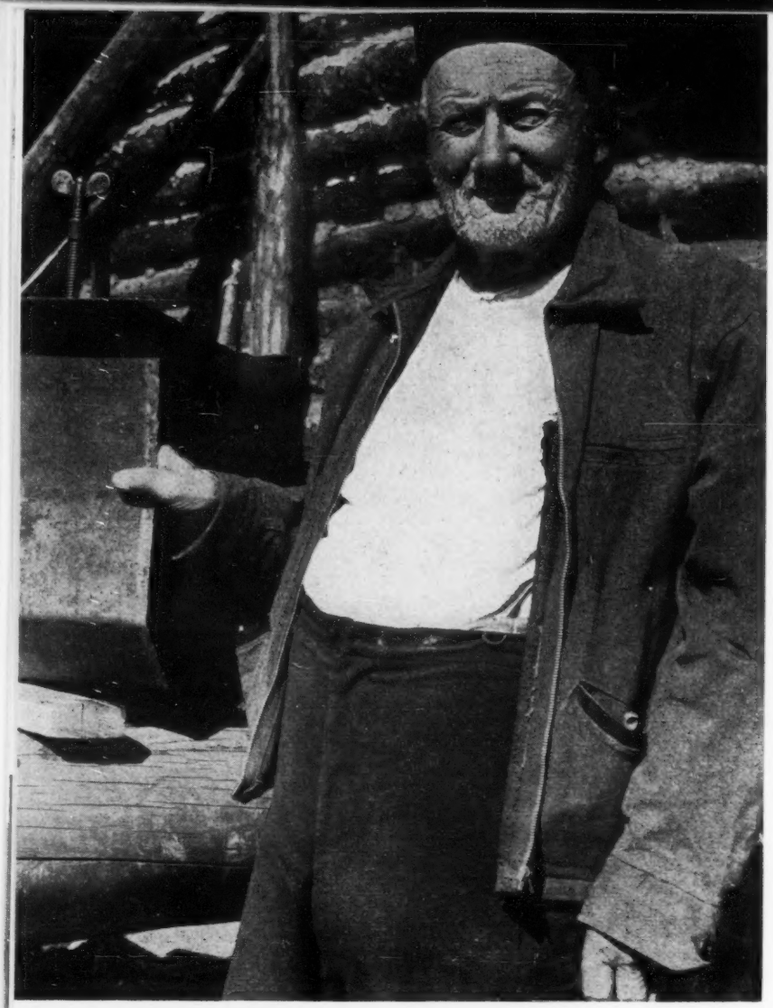
J-M. Mouchet introduced skiing in 1955. A former French army ski trooper, he had previously taught skiing to Indians at Telegraph Creek, B.C. The Indians of Old Crow picked it up enthusiastically, and about forty have become good skiers. One way and another, equipment was donated from benefactors outside, and the group cleared slalom slopes and cross-country ski trails.

Father Mouchet considers athletic competition a means of bolstering pride in physical prowess and thus pride of race. "They cannot compete with the white man on all grounds, that is understood," he says briskly. "But in athletics, yes. In Whitehorse in March last year, they entered a ski meet and brought home fourteen prizes. Ben Charley has also taken trophies at Fairbanks and Juneau. They've shown they can excel. Some day we'll have a cross-country team worthy of entering the Olympics."

Two Royal Canadian Mounted Police constables are located in the village, but Old Crow has a tradition of strong self-government. They elect their own chief and council for a two-year term, and have been fortunate in their successive leaders, some of whom have held position for many years.

Chief Charlie Abel, a stocky soft-spoken man of sound ideas, is now in his second two-year term. When classrooms overflowed the old mission school into the old

Neil McDonald (left) and postmaster Robert Bruce unload mail sacks brought from the dock by hand-drawn cart.

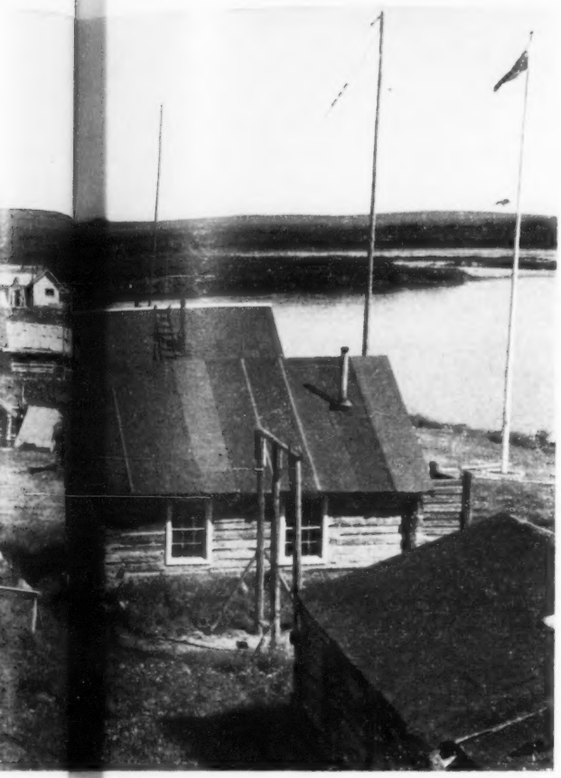


One of the handful of white residents is Old Sam, a Scandinavian prospector who still dreams of striking out again, but meantime makes excellent cheap stoves.

Mrs. Joe Netro with 8-month-old Linda, youngest of her 12 children. Old Crow women are noted for their beadwork of which this carrying band with wool tassels is an example.

Sam's stoves can take any kind of weather and are used outdoors as well as indoors.

The village of Old Crow, looking east towards the Porcupine valley.



RCMP Constable Hart checks travel box with Special Constable Peter Benjamin.

Anglican church, the federal government proposed a new large day school. Chief Abel came up with a practical suggestion. Why not build the school of logs like all the other buildings in the village? It would provide work locally, and save the expense of bringing in a prefabricated building.

By July, the two-classroom log school was nearing completion. It has two charming apartments for the teachers, running water, its own lighting and heating plants. Even unfinished, the school was put to good use.

A government health team flew in from Aklavik at 11 o'clock Sunday evening while we were there. Hitching their equipment to the school's lighting plant, they x-rayed residents at the rate of 85 an hour. The doctor treated medical cases throughout the sun-filled night, and all flew off again at 4 a.m.

"We think the school will be ready by the end of September, and I guess we'll open it with a dance," said Chief Abel with a chuckle. "That's what I like."

That's how important events should be marked, the Old Crow Indians feel, whether it's the conclusion of a successful hunt or the visit of a beloved Bishop. A feast-and-dance was arranged for Monday night, midway between Bishop Greenwood's parochial calls, special services, and the arrival of the mail plane.

Instead, the Bishop conducted a funeral service. An aircraft flew in from Aklavik bearing the body of a small child who died of pneumonia-heart failure in hospital. Sorrow was mixed with a hard-learned philosophy. The baby had never been healthy, and only the rugged survive in the Arctic. This death broke a remarkable record of more than four years since the previous funeral. Old Crow, with nearly 200 inhabitants, many of them in their seventies and eighties, is unusually healthy.

Ever since the smallpox epidemic, the Loucheux have obeyed sanitation practices recommended then. Pit latrines are dug down through the permafrost. Garbage is taken well out into the river, or dumped on its ice. Drains between houses carry off surface water, and houses and food are clean. The Canadian government maintains a trained nurse in the village. For some years, tuberculosis was a dread enemy, and is still one to be reckoned with. Headboards in the little cemetery commemorate many children, victims of spinal meningitis. Families in Old Crow are large, and Family Allowance is a substantial part of the income. It is wisely spent by fond parents on good food and clothing for the children.

The children fared well at the feast-and-dance held next evening. No one missed the celebration except

The dancing eyes of youth are still bright . . . in old age, for keen-witted Sarah Tizya is 102.

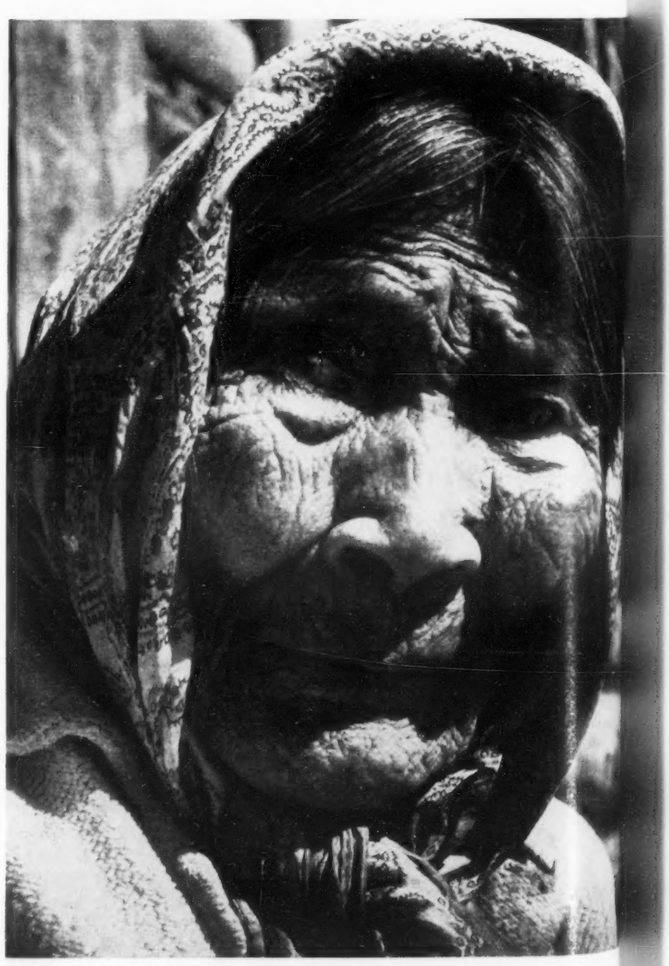
102-year-old Sarah Tizya. (She had managed to hobble as far as the church, however, for the Bishop's Sunday morning sermon.) The feast was held in the Council Hall, where we sat on benches at trestle tables around the hall. The Women's Auxiliary had been busy cooking the meal, now serving it. Children sat crosslegged on the floor, having a picnic of a time. Vegetable soup was followed by boiled caribou ribs and bannock, and by cakes with vivid icing. Tea or coffee and, sophisticated touch, the ladies passed cigarettes. Eloquent after-dinner speeches in Loucheux and English paid full tribute to a fine feast.

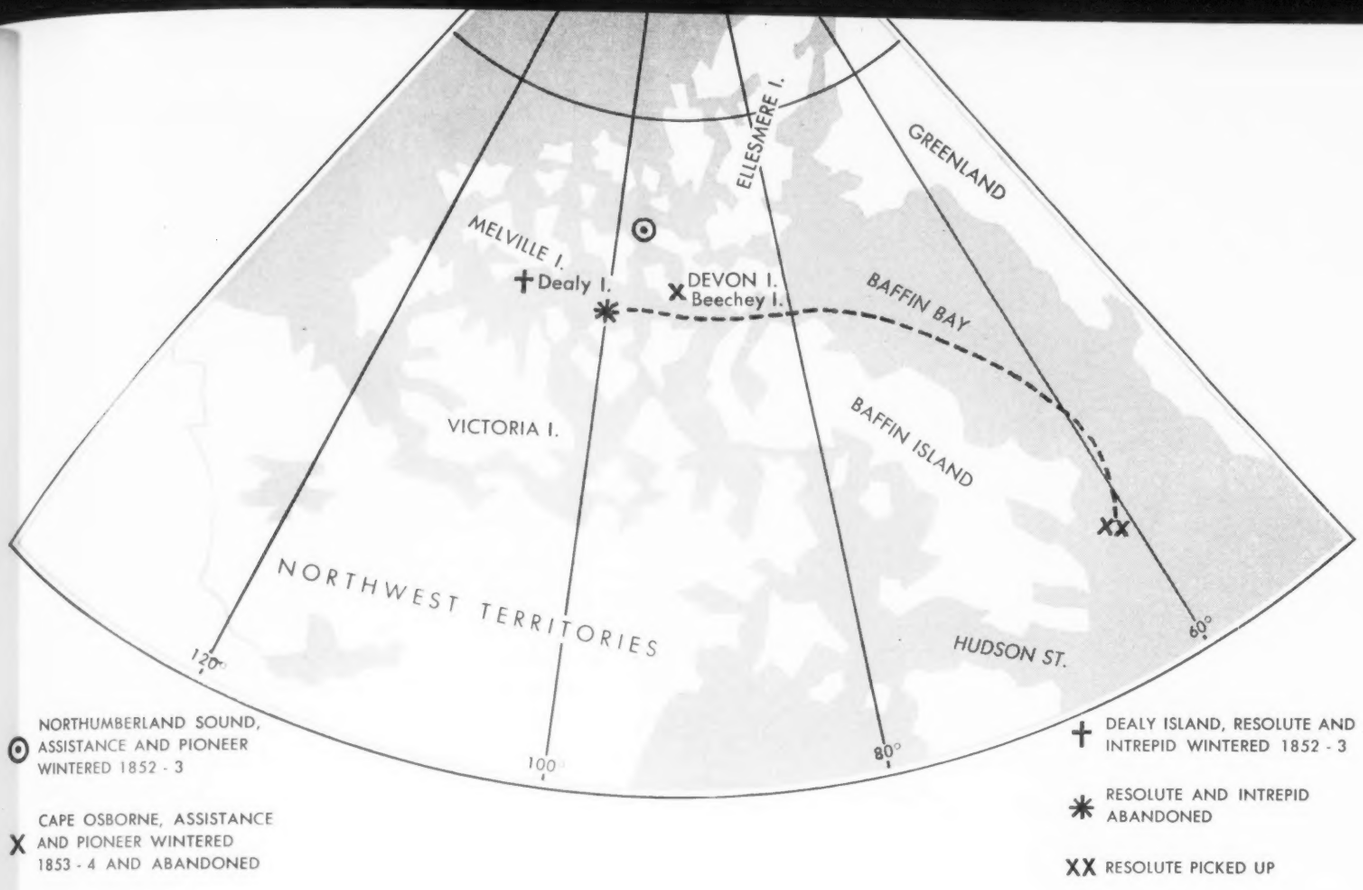
The women withdrew, carrying dishes home to be washed, putting sleepy small children to bed. Older children romped until the village bell signalled the start of the dance. The first hour was theirs, and the two-man orchestra of fiddle and guitar played as lively music for the children as later for their seniors. It was delightful to watch them jig, their beautifully-beaded moccasins—girls' banded with white rabbit fur, boys' with brown wolverine—making no sound on the heaving floor.

Then the grownups had their turn. Waltzes, two-steps, square dances, reels, and jigs followed, with the beaded moccasins twinkling in intricate steps. A woman might signal a man to be her partner, or simply stand up in place. There was little hanging back. Her place might be taken by another woman, another man replace her partner. An Eskimo song-dance broke the pattern. Actually, this was burlesqued to shrieks of laughter, for the Loucheux have little admiration for Eskimos. And there was another strange pantomime, one usually reserved for New Year's. Ex-Chief Peter Moses donned black kerchief and black shawl to represent a raven. A young lad lay still on the floor—the dead caribou. As the dancer chanted and hopped around him, pretending to peck out his eyes, then his heart, it seemed a sinister performance. In a mask and with only firelight for footlights this must have been a shuddery item in the winter repertory.

Dancing resumed until four in the morning, but the white visitors drifted away in the midnight sunshine. We never seemed to get enough sleep in that period of constant daylight. And tomorrow we had to leave.

About ten next morning, the huskies down on shore set up a ululating howl, promptly joined by barks and yelps from their brothers back in the bush. It was a signal to carry our bags down to the dock. Sure enough, a black speck soon loomed in the southern sky, our transportation back to Dawson. ♦





H.M.S. RESOLUTE

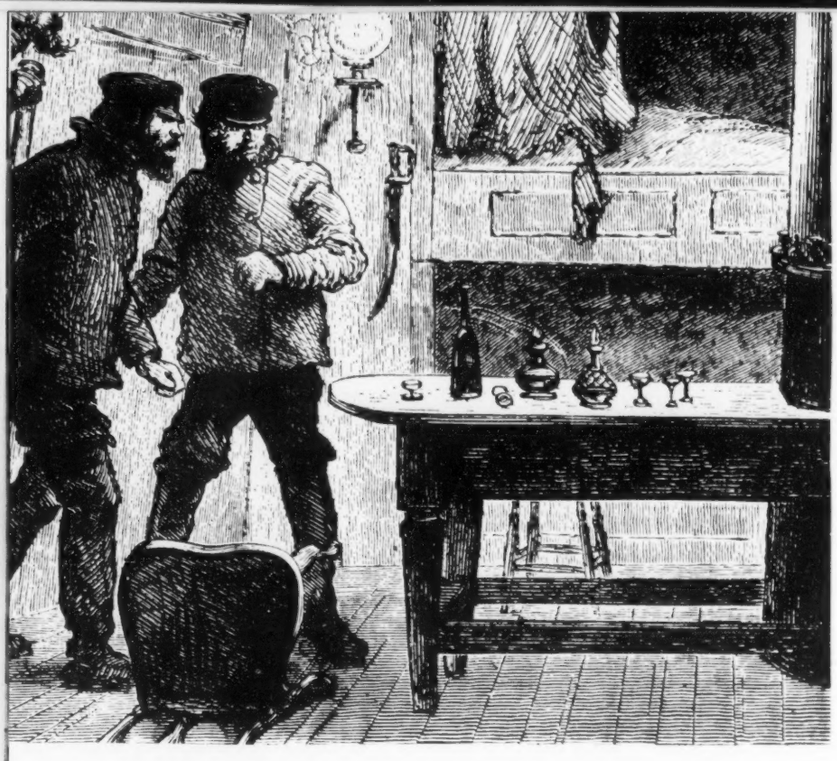
a study in international relations

BY MOIRA DUNBAR

EARLIER this year it was announced from the White House that President Kennedy had installed in his study a desk made from the timbers of H.M.S. *Resolute* and presented to the President of the United States by the British Government in 1878. The strange career of this sturdy arctic expedition ship is worth retelling. Not only is it of unusual interest in itself, it reflects one of the most graceful and courteous gestures ever made by one government to another.

H.M.S. *Resolute* was one of two identical ships built for the Franklin search. With her sister ship the *Assistance* and two steam tenders, *Pioneer* and *Intrepid*, she made two voyages to the Arctic, in 1850-51 under the command of Captain Horatio T. Austin, and in 1852-54 under Sir Edward Belcher. The two ships were massively built of African oak to withstand ice and were rigged as barques. Their displacement tonnage was 410. According to Lt. Sherard Osborn, their hulls were "strengthened according to the most orthodox arctic rules, until, instead of presenting the appearance of a body intended for progress through the water, they resembled nothing so much as very ungainly snuff-boxes, and their bows formed a buttress which rather pushed the water before it than passed through it." In fairness it should be mentioned that Lt. Osborn was prejudiced, being captain of the *Intrepid*, whose job it was to tow the *Resolute* in calm weather. The *Pioneer* and *Intrepid* were the first screw vessels to be used in the Arctic, and were very successful. Osborn makes many derogatory references to the ships—"our bluff-bowed worse-halfs, the sailing ships, nigh broke our hearts, as well as our hawsers, in dragging them along in the calms," "my 'fat friend,' the Resolute"—and so on; and he quotes an old seaman, "grown grey in the arctic service," as saying "Lord, sir!

Miss Dunbar, co-author of "Arctic Canada from the Air", is a geographer with the Defence Research Board, specializing in sea ice.



On board the abandoned "Resolute," according to George E. Tyson (above), "Every thing presented a mouldy appearance."

you would think, by the quantity of wood they are putting into them ships, that the dockyard maties believed they could stop the Almighty from moving the floes in Baffin's Bay." However, Osborn concedes that the internal fittings of the ships were excellent: "nothing had been spared to render them the most comfortable vessels that ever went out avowedly to winter in the polar ice."

On their second voyage, in 1852-54, the four ships were supported by the supply vessel *North Star*. Commander of the expedition was Sir Edward Belcher, and second in command was Captain Henry Kellett, who sailed in the *Resolute*. The expedition split into two squadrons, Kellett with the *Resolute* and *Intrepid* spending the first winter at Dealy Island on the south coast of Melville Island and a second drifting in the ice in Barrow Strait, while Belcher with the *Assistance* and *Pioneer* was in the Wellington Channel area off the west coast of Devon Island. The *North Star* was at Beechey Island, the last known wintering place of Franklin. In May 1854, against the advice of Kellett and all his officers, Belcher ordered all four ships, all in good condition and with every expectation of being released from the ice within a few weeks, to be abandoned, and the entire expedition went home in the *North Star* and two other supply vessels which arrived at the opportune moment. For this extraordinary act, one of the most controversial in the history of exploration, Belcher was court-martialled on his return to England, but was acquitted, on the grounds of the very wide discretionary powers given him in his orders. He subsequently became an admiral.

Of the ships, the *Assistance*, *Pioneer*, and *Intrepid* presumably broke up and sank, as was to be expected. The *Resolute*, however, was not finished yet. From the point where she was abandoned, off the southwest coast of Bathurst Island, she drifted for sixteen months, out of Lancaster Sound and south through Baffin Bay to Davis Strait, where, near the entrance to Cumberland Sound, she drifted within a few miles of the whaling barque *George Henry*, of New London, Connecticut, Captain James Buddington, which was also beset in the ice.

Accounts of her adventures are given in three publications. The first is by G. F. McDougall, one of Kellett's officers, who gives a rather touching account of the abandoning of the ships, followed by the story of the recovery of the *Resolute*, quoted mainly from the *New York Herald* of 27 December 1855, and a detailed description of the ceremonies surrounding the handing over of the ship to the British navy. The second is a first-hand account of the finding of the ship by George E. Tyson, who was one of the first to board her. Finally there is a lot of official correspondence and other documents in the British Parliamentary papers for 1855-57. By far the most entertaining, but not necessarily the most accurate, is Tyson's story.

George Tyson had a long career as a whaler. Born in New Jersey and put to work by his family in an iron foundry, he pined for the sea, and in 1850, at the age, as he vaguely says, of "about twenty-one," he shipped to Baffin Bay in a whaler. From 1860 on he was a captain. His most famous exploit was in 1872-3, when he was assistant navigator to a United States expedition in the *Polaris* under C. F. Hall. With a party of 19, which included an Eskimo family with a 2-month-old baby, he drifted all winter on an ice floe, being picked up in April off the coast of Labrador by a whaler.* Their survival was largely due to the leadership of Tyson.

*See "Joe and Hannah," *Beaver*, Autumn 1959.

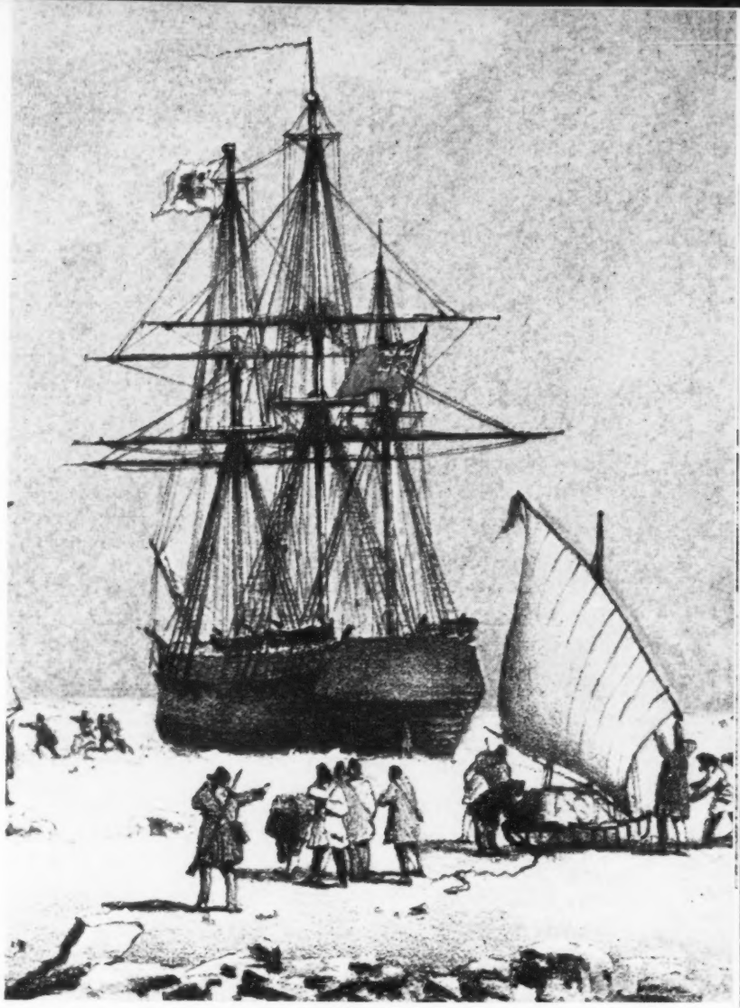
At the time of the *Resolute* incident he was a "boat-steerer" on the *George Henry*, a relatively junior but very important position. Whales were hunted at this time from small boats, powered by oars and the strong backs of the sailors. The steerer was in charge of the boat, and was also responsible for harpooning and "playing" the whale, a job that demand both skill and daring.

"In the latter part of August," writes Tyson, (Buddington says September 10) "I sighted a vessel, which at first we all supposed to be a whaler, as we knew there were several trying to get in the gulf [Cumberland Sound]. This vessel remained in sight several days. At times we imagined she had all sail on, and was working through the ice. No one for a moment thought that she was an abandoned vessel, but there was something about her which aroused my curiosity; I seemed to *feel* that there would be a story to tell if I could only get at her; and when she had been in sight about two weeks I asked the captain for leave to go over, with two or three companions, to see what she was made of. He objected at first; thought 'we should never get there' (she was about ten or twelve miles off); and if we succeeded in reaching her he was sure 'we would never get back'; but I was determined, and so at last, in company with the mate, John Quayle, the second mate, Norris Havens, and Mr. Tallinghast, a boat-steerer like myself, we started off for the ship."

It is perhaps of interest to quote for comparison the account in the *New York Herald*, based on an interview with Buddington: "On the sixth day after making the discovery, and when the ship was about seven miles off, Captain Buddington ordered the two mates and two of the crew to proceed to the abandoned vessel across the packed ice, and, after inspecting her, to return to the barque as soon as practicable."

At any rate, whether sent or at their own request, Tyson and the others set off across the ice, which was very rough and interspersed with patches of open water that were hard to negotiate without a boat. "We were all day on our journey, it being nearly night when we reached the stranger. As we approached within sight we looked in vain for any signs of life. Could it be that all on board were sick or dead? What could it mean? Surely, if there were any living soul on board, a party of four men travelling toward her across that hummocky ice would naturally excite their curiosity. But no one appeared. As we got nearer we saw by indubitable signs, that she was abandoned.

"By this time Mr. Quayle was so tired that I had to assist him in boarding the ship, myself and the other two



Abandonment of the "Resolute" on 15 May 1854, from a drawing by the Master, G. F. McDougall.

following. We found the cabin locked and sealed; but locks and seals did not stand long. A whaler's boot vigorously applied to a door is a very effective key. We were soon in the cabin. This was no whaler, that was plain; neither was she an American vessel, it was soon discovered. English, no doubt of that. Every thing presented a mouldy appearance. The decanters of wine, with which the late officers had last regaled themselves, were still sitting on the table, *some of the wine still remaining in the glasses*, and in the rack around the mizenmast were a number of other glasses and decanters. It was a strange scene to come upon in that desolate place. Some of my companions appeared to feel somewhat superstitious, and hesitated to drink the wine, but my long and fatiguing walk made it very acceptable to me, and having helped myself to a glass, and they seeing it did not kill me, an expression of intense relief came over their countenances, and they all, with one accord, went for that wine with a will; and there and then we all drank a bumper to the late officers and crew of the *Resolute*."

This toast is a rather striking echo of another, drunk less than a hour before the *Resolute* was abandoned. "At 6.15 p.m.," writes McDougall, "the Captain Kellett inspected the lower deck, holds, etc., and after drinking

a glass of wine to the old 'Resolute' and her crew, the lower deck was cleared for the last time, and the main hatchway secured.

"At 7 p.m. precisely, the four sledges, commanded by Captain Kellett, Commander M'Clintock, Mr. Roche (mate), and myself, moved on in the direction of Cape Cockburn. . . .

"After advancing about a quarter of a mile the crews of the various sledges halted simultaneously; unharnessed and gave three hearty cheers for the 'Resolute' and 'Intrepid'; but though the ice is a good conductor of sound, we heard no response."

Tyson continues: "It was now too dark to attempt to travel back that night over the broken ice, and we prepared to stay where we were. Possibly the wine we had taken, being at that time unused to it, partly influenced us to this conclusion; but sleep in the vessel we did."

They soon had time to get used to the wine. "In the morning we found it snowing, and blowing very heavy from the south-east. We could not hope ever to find our way back to the *George Henry* in such a storm, and so, having made a fire, we were prepared to pass the time as comfortably as possible. Among other things, we found some of the uniforms of the officers, in which we arrayed ourselves, buckling on the swords, and putting on their cocked hats, treating ourselves, as *British officers*, to a little more wine. Well, we had what sailors call a 'good time,' getting up an impromptu sham duel; and before those swords were laid aside one was cut in twain, and the others were hacked and beaten to pieces, taking care, however, not to harm our precious bodies, though we did some hard fighting—*we, or the wine*!

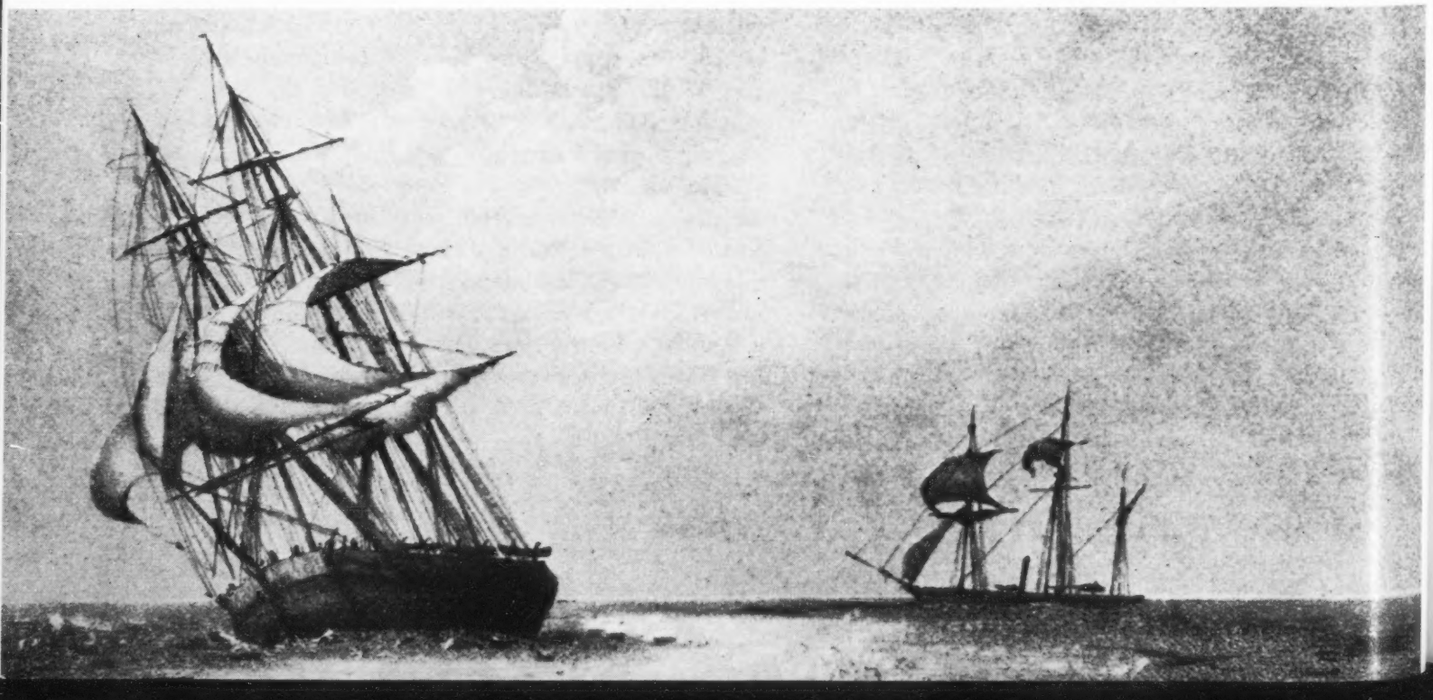
"The storm continued for three days, during which we had ample time to investigate the condition and inspect the contents of the good ship *Resolute*. We found food on board, and were enjoying ourselves so well that we should not have cared if it had lasted six. But the weather cleared up, and we saw that the *George Henry* was still at about the same distance from us; so we took all we could carry on our backs, and started to return, arriving at our ship all safe, though some of us got a good ducking by jumping into the water while attempting to spring from one piece of ice to another. Being so heavily laden, we often fell short of the mark, and went plump into the the water; but we were in such good spirits that these little mishaps, instead of inciting condolence, were a continual cause of merriment." It should be pointed out in parenthesis that the temperature of the water was probably around 28° F. The wine must certainly have been good. (The *New York Herald* version simply says "they left the ship, and, after a tedious and hard march, arrived on board the barque in safety.")

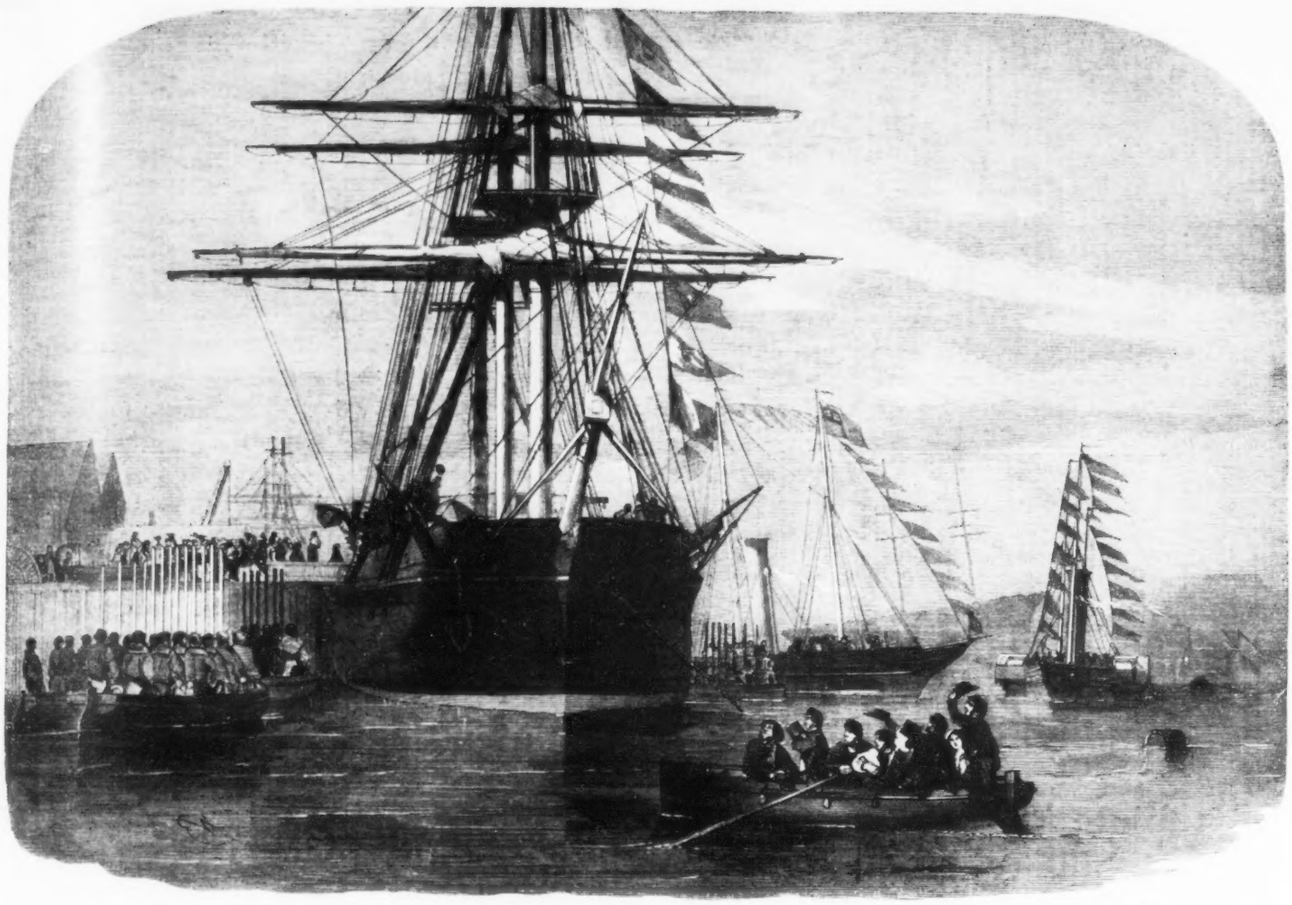
"On arriving at the *George Henry*, we made our report to Captain Buddington, describing our treasure-trove in glowing terms. After a good rest, we again started for the *Resolute*, and staid several days on board. At this time the two vessels were nearing each other—the one voluntarily, the other drifting, as she had already done, for a thousand miles . . .

"At last the two vessels were only about four miles apart. We were still having a nice time, when, one morning, we saw several persons coming over the ice, and, to our discomfiture, they proved to be the captain, with several of the crew. We very soon got orders to return on board the *George Henry*, while, to our chagrin, the captain took possession of the *Resolute*."

It is possible that good living had dulled Tyson's perceptions or time lent a rosy haze to his memories, because it appears from Captain Buddington's report to his owners that the time-scale was actually much tighter.

H.M.S. "Resolute" under sail for the last time in September 1853, the steam tender "Intrepid" in the background.
By G. F. McDougall





The "Resolute" in Cowes harbour in December 1856, after being sailed back to England by the U.S. Navy.
Illustrated London News

According to him they boarded the *Resolute* on September 15, returned to the *George Henry* on the 17th, and reboarded the *Resolute* on the 18th, and he himself took over on the 19th. In any event, the arctic bacchanalia came to an end, and Captain Buddington began the arduous task of sailing the derelict home. This was none too easy, as although she was perfectly sound and watertight, the rigging and sails had deteriorated, the water tanks had burst and filled the hold with water, and much of her stores and equipment had been damaged. What was worse, all charts and navigation instruments had apparently been removed, and all Captain Buddington had was "his lever watch, a quadrant, and a miserable compass" and "a rough outline of the great North American coast, drawn on a sheet of foolscap." Nor was the weather co-operative. Battered by gales and with only half a crew each, both ships had a difficult voyage home to New London, the *George Henry* taking forty days and the *Resolute* no less than sixty-four, during which she was blown as far off course as Bermuda.

The British Government waived all right to the *Resolute*. It might be thought that in fact they had none, having abandoned her, but apparently this was not so. It is clear that Captain Buddington and his owners thought her return would be demanded and only expected payment for salvage. The act of the British was regarded as showing great courtesy, and as a graceful compliment to the fine seamanship of the New England whalers in general and Captain Buddington in particular, as indeed it was intended to be. There was, to be sure, a certain amount of initial alarm and despondency expressed by Messrs. Perkins and Smith, who owned the *George Henry*, because the waiver was worded in favour of Captain Buddington and his crew rather than of the owners. It was tactfully pointed out that the time spent in salvaging the *Resolute* represented a corresponding loss of whaling time to the owners. She was thus, in effect, a whale, and any profits accruing should be divided between owners, captain, and crew in the same ratio as was customary for whales. This breach of whaling etiquette was quickly adjusted, and the *New London Chronicle* for 6 June 1856 announced: "With a generosity that does them honour, the British have forgone all considerations but those of manhood and honour, and left the salvors the just reward of their perseverence and their perils."

The suggestion that the United States Government should buy the vessel and return her to Britain is said to have originated with two men closely associated with the Franklin search, Mr. Henry Grinnell of New York, who had personally equipped two expeditions, and Dr. E. K. Kane, who had taken part in both and led one. The

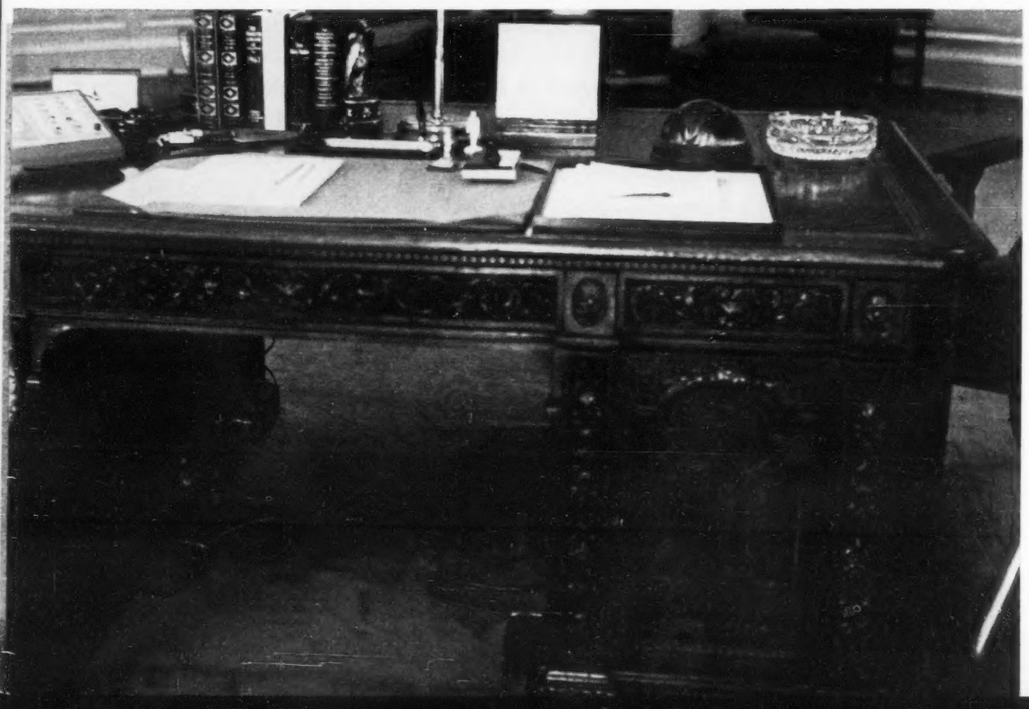
matter was raised in the Senate by Senator J. M. Mason of Virginia on June 12. "Mr. President, I saw, as did the whole American people, the fact announced of the recovery of this vessel, and her being brought successfully, and after much danger and peril, within our own waters. It occurred to me at the time, . . . that the proper disposition of that vessel would be for the Government of the United States to purchase her, and refit her in a proper manner, and send her back to England. She was the property of the English Government, and was one of their public ships, abandoned on an enterprise of discovery, in which we have largely participated with them, abandoned from necessity, and accidentally recovered by one of our merchant ships."

The resolution was passed unanimously on June 24 and a sum of $40,000 appropriated for the purchase of the ship. She was refitted with the greatest care and in the minutest detail (even the officers' libraries, musical boxes, and pictures were preserved and restored to their original position). The ship was then sailed to England by a United States Navy crew under the command of Captain Henry J. Hartstene, USN, and handed over to the British Navy in December 1856 amid a positive orgy of mutual goodwill. Captain Hartstene seems to have fulfilled his duties admirably, and showed no small ability to turn a graceful phrase. The Queen in person visited the ship at Cowes, and "touched by the manly simplicity of the frank and sailor-like address of the gallant captain" invited him to dine and spend the night at Osborne.

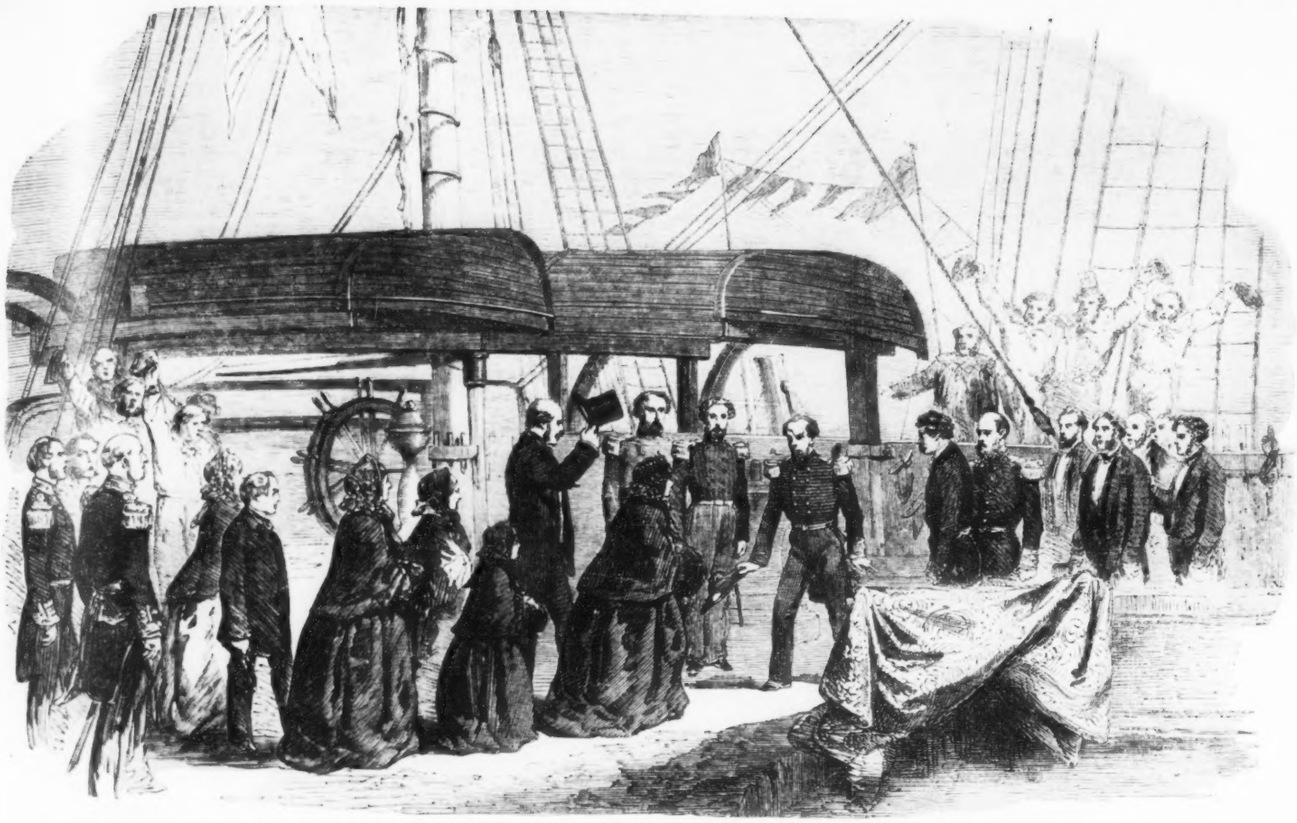
But the poor old *Resolute*, alas, was something of a white elephant, and an obsolete one at that. Built expressly for arctic service, she was heavy and clumsy and quite unfit for anything else; it was questionable whether even for arctic work her lack of manoeuvrability did not outweigh her structural strength. The only request for her use came from the indefatigable Lady Franklin, who was planning a search of the area where her husband's expedition was now known to have perished. She was refused, and instead bought the yacht *Fox*, which very successfully did the job under the able command of Captain F. L. M'Clintock (1857-59), while the *Resolute* remained in mothballs, along with a number of other arctic vessels. The British Admiralty sent no more expeditions to polar waters until 1875, by which time steam had almost completely replaced sail for ice navigation.

So the *Resolute* was broken up in 1878, less than 30 years old, which is no great age for a ship, and the desk was made from her timbers and, to quote the inscription carved on it, "presented by the Queen of Great Britain and Ireland to the President of the United States as a memorial of the courtesy and loving kindness which dictated the offer of the Resolute." By her stubborn refusal to sink with her sisters she had survived to become a symbol of something that was far more than the mere value of the ship. It shows a nice sense of history on the part of the Kennedys that they have promoted the old desk, which appears to be almost as solid and cumbersome as the *Resolute* herself and a great deal more ornate, from the Broadcasting Room to the President's office. In doing so they help to realize the hope expressed by Captain Hartstene in handing over the ship at Portsmouth to Captain G. H. Seymour, RN.

"Sir, the closing scene of my most pleasant and important mission has now to be performed. And permit me to hope that long after every timber in her sturdy frame shall have perished, the remembrance of the old 'Resolute' will be cherished by the people of the respective nations. I now, with a pride totally at variance with our professional ideas, strike my flag, and to you, Sir, give up the ship."



The richly carved desk made from the timbers of H.M.S. "Resolute" which is now used by President John F. Kennedy, shown in his White House office. The desk was presented to the United States by Queen Victoria in 1878 when Rutherford B. Hayes was President.
Nat. Def. photo



Queen Victoria visited the "Resolute" when she arrived at Cowes and is shown here being received by Captain Hartstene, USN and his officers. A contemporary ballad by Martin F. Tupper, published in the "Illustrated London News" for 20 December 1856, puts the whole story in a nutshell with more appropriate sentiment than any modern writer can hope to match; and perhaps makes the foregoing account redundant. It is quoted in full:

AN INTERNATIONAL BALLAD

A gracious and generous action
  Outweighing all sins on each side,
Outshaming the treasons of faction,
  Ambition, and folly, and pride;
No jealousies now shall be rankling,
  No silly suspicions intrude,
But round the remembrance of Franklin
Our brotherly loves be renewed!

The *Resolute*, lying forsaken,
  The sport of the winds and the ice,
By luck to America taken,
  Is nobly restored without price!
Nor only refusing all ransom,
  But, fitted anew for the Queen,
In a manner more gracious and handsome,
  And kinder than ever was seen.

We, too, were not lacking of honour,
  For, waiving all claim to the ship,
When Buddington's flag was upon her,
  We flung away quibble and quip.—
"He saved her—and so let him take her;"
  But handsome America said,
"I guess, cousin, that we can make her
  A prettier present, instead.

"With thousands of dollars we'll buy her,
  With thousands of dollars repair
(Diplomacy cannot take fire
  That here at least all isn't fair)—
In honour of Britain's ice-heroes,
  Of Franklin, and Ross, and M'Clure,
To gentle Victoria, the Sea-Rose,
  Her *Resolute* thus we restore!"

Huzzah for this generous meeting!
  Huzza, too, for Grinnell and Kane,
And all the kind hearts that are beating,
  So nobly from Kansas to Maine!
Our instincts are all for each other
  (Though both have a tincture of heat),
And truly, as brother with brother,
  Our bosoms in unison beat.

When crafty diplomacy's blindness
  So often does harm in the dark,
One plain international kindness
  Comes—just as the dove to the Ark;
O wisdom, above the astuteness
  Of placemen by cunning defiled,—
O better than manhood's acuteness
  This kindliness as of a child!

By DAVID F. PARMELEE and RICHARD H. SCHMIDT

CHRISTMAS-TREE B

IF you live in the far north, farther than the northern limit of trees . . . *don't* throw away or burn your Christmas tree following the holidays. Rather stand it upright, well supported by rocks, near your house or shed; for the Christmas-tree birds may seek out your home the very next spring and remain with you throughout summer. That old tree of yours is as good as any conventional bird house!

The Christmas-tree birds are the redpolls, so called for their crown feathers of crimson red, present in all plumages by the time these birds experience their first September. For the most part they are dull coloured. In the summer plumage the dorsum is greyish-brown, finely divided with irregular streaks of white, the underparts being greyish and boldly streaked with brown. The winter feather is paler, somewhat tawny. The rump feathers above the tail are very whitish then.

A sharply pointed conical bill identifies the redpoll with the finch and sparrow family. Dusky chins and white wing bars are characteristic of the species, but noteworthy is the size. Redpolls are among the tiniest of all arctic warm-blooded animals and are the smallest birds of the really high latitudes. Redpolls may be only $4\frac{1}{2}$ inches long from tip of bill to tip of tail. Few exceed six inches. They weigh less than half an ounce.

The sexes may show some dimorphism. Males presumed to be at least two years old have a pinkish wash of varying intensity on pale feather areas, particularly of the chest. In some the pink is so intense that it has been called "old rose." Others display little if any pink even during breeding.

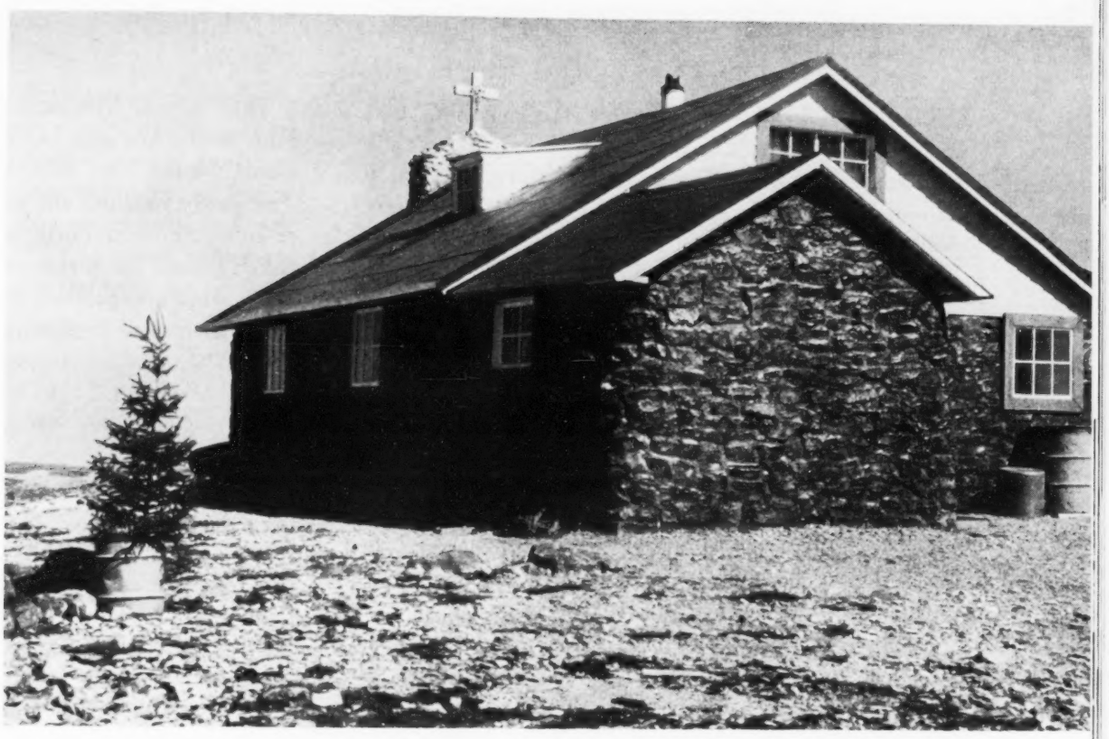
A more constant characteristic is that they prefer a cool climate. Being circumpolar, they breed in the arctic and coniferous zones of both eastern and western hemispheres. A few breed south into the more temperate zones, notably in the British Isles and mountainous parts of central Europe. None, however, is tropical.

These amazing birds endure incredibly cold temperatures and can be found as far north as land extends—beyond the 83rd parallel. Some redpolls reportedly live with the arctic winter. For example, in high-arctic Greenland where the snow cover is thin and food nearly always available redpolls have been noted the year round, even during January when the sun is continuously below the horizon. Others are strongly migratory. In North America they are occasionally seen drifting with the winter snows as far south as northern California, Colorado, Indiana, and Delaware; in Eurasia they may reach France, Italy, Turkey, China, and Japan. Their stay in southern latitudes is nevertheless short. Among the first birds to move north in spring, they appear even in the high arctic in April when temperatures may be -40°F. or lower!

Redpolls may be small and inconspicuous but they present a whale of a problem to the bird scientist. Some ornithologists consider redpolls to be of separate species. Some are convinced that there is only one species and many have mixed feelings on the subject. Furthermore, redpolls can be readily separated into a number of populations called races or subspecies. Whether a particular redpoll is merely a subspecies or truly a full species has always been a moot question. This means that science doesn't know what the redpoll is.

Dr. Parmelee and Mr. Schmidt are on the staff of the biology department at Kansas State Teachers College. *Their bird research in the Arctic in the 1960 season was supported by the Arctic Institute of North America and the National Science Foundation.*

Probably the only upright tree on Victoria Island, outside the Catholic Mission, was taken over by nesting redpolls.



E BIRDS

The arguments continue but experts agree that classification is not simple. All of us, however, can enjoy these highly interesting birds without worrying about redpoll phylogeny.

Not all redpolls are Christmas-tree birds to be sure, but some of them are. We saw them at Cambridge Bay, Victoria Island, in the Northwest Territories. On the day of our arrival there on May 31, in 1960, a flock of five individuals picked grass seed in snow-free places near the main road of the village. The birds flocked here on several days following, the thaw being rapid and food easily obtained along the much travelled road. Possibly there were two dozen birds altogether. There were not many more.

What we expected and found in this low arctic region was the Hoary Redpoll, usually named *Acanthis hornemanni*; but we also found *Acanthis flammea*, a more southerly bird, the Common Redpoll. The latter is especially abundant in the subarctic zone of North America from Labrador to the Alaskan coast. In Canada it is scarce in much of the Low Arctic and decidedly so in the High Arctic, except perhaps in parts of Baffin Island. In any event, the Cambridge Bay birds would appear to be one of nature's many experiments. They seem to represent a northward migration of a small group of southern redpolls into the colder and more desolate region, one not far removed from high-arctic conditions.

The Cambridge Bay flock, composed of both Common and Hoary Redpolls, dispersed sometime in early June, and it appeared that all of these birds had deserted the village. We believed that they left the coast for the sheltered slopes and valleys inland where the arctic willow grew profusely and high enough to meet nesting requirements. All efforts to find these birds there failed.

We asked the people of Cambridge Bay about the redpolls. School principal William Bock knew the birds. He then told us of a nest that had been found in the village the previous year. His description left little doubt that it was a redpoll nest, though oddly enough it had been placed on the ground in a clump of grass. Redpolls nest in small conifers or shrubs or on rocks and rarely elsewhere.

Reverend William Evans, Anglican minister, also knew the birds. On May 7 that year he and Mrs. Evans captured one inside their home. They kept it for several days and released it. The Catholic priest, Father Louis Lemer, as we later discovered, knew the redpolls too. Our Eskimo guide, David Kaomayok, clearly recognized them, but many Cambridge Bay Eskimos confused them with other small birds of the region.

In seeing no redpolls anywhere for several weeks, we quite forgot them until the 22nd of June when we returned from a sledging trip. Hardly had we arrived back when Les Clark rushed up to tell us of a small nest located

across the bay in a tree beside the Catholic Mission. Les, an engineer for the Department of Transport, took a keen interest in our work with birds. News of our search for redpolls and other species spread rapidly. There were many helping hands.

The tree of which Clark spoke was the only genuinely upright tree probably on all of Victoria Island. It was a little conifer—a Christmas tree—that Father Lemer had set in a metal drum filled with rocks outside his mission. There, open to the sky, it withstood the fury of the winds. Though not rooted in soil its needles were still green and pliable. The redpolls, according to Father Lemer, had taken over the tree early in June. There was a nest warmly lined and a clutch of five eggs on the 12th. We touched the bill of the brooding female before she flitted off the nest, which then had four eggs and a newly hatched chick. These birds were Common Redpolls.

News of another redpoll nest reached us the following day. This nest, also in a Christmas tree and containing five eggs, was near the Anglican Mission. The tree lay flat on the ground and was very dry and brown. Still, this Common Redpoll preferred it to a willow or grass tussock.

A search for Christmas trees began in earnest. Hudson's Bay Company store manager William Heslop remembered one behind a shed in his yard. All that remained was the trunk and a few branches and no needles to speak of. Moreover, the tree was partially covered with metal tubing and pieces of lumber. All this and the close proximity of the building didn't matter. Saddled on dry branches was a neat little nest with five eggs and a redpoll.

One thing that does matter in redpoll nestings is that there has to be enough room between nests. You will not find two of their nests in the same tree or in trees very close together. Redpolls will nest in more or less loose colonies but the nests are well spaced.

We found no more Christmas trees, and we also found no more redpoll nests. Most of the trees had either been burnt or tossed near the beach or out on the sea ice—a habitat not well suited even to redpolls. The Eskimo children helped us search but all small nests reported by them invariably proved to belong to the Lapland longspur, a little sparrow-like tundra bird that was everywhere common.

The Christmas-tree nests were watched daily. Both the Reverend Mr. Evans and Father Lemer observed their respective nests, and David McCall and John MacDonald of Hudson's Bay Company took over at the "H B C nest" whenever we were away. All of Cambridge Bay knew of these nests.

The Catholic Mission nest was nearly a total success. Four of the five eggs hatched, the first on the 22nd, the second on the 23rd, and the fourth on the 24th of June. The newly hatched chicks weighed less than one-tenth of an ounce each. Their eyes were closed and they were naked except for a few wisps of natal down, the birds being wholly dependent on the warmth of the mother brood-patch and insulating effect of the nest.

The baby redpolls were immediately active and soon raised their gaping mouths for food. Stuffed continually with insects caught by the parent bird, they grew with fantastic speed. In just ten days they changed from wriggly bits of pinkish flesh to wonderfully feathered birds ready to fledge.

On June 28 we attached a numbered metal band on one leg of each nestling. Starting with the first or oldest sibling, we banded them 26-04701, -02, -03, -04. The oldest two fledged July 4th. The second young (26-04702) was eleven days old then. Although well feathered, the two youngest siblings remained in the nest much longer than expected, finally leaving on July 9th when 15 days old. The tree was abandoned when the last young left the nest.

The Anglican Mission nest failed. To prevent predation by domestic cats, Mr. Evans completely covered the nest-tree with wire fencing, the mesh of which was just large enough to permit the parent bird to pass through it. This she did as though the wire were not there. The first young hatched June 30th, the last on July 4th. Soon after some animal tore the nest, spilling the young. These quickly perished from exposure. One of the smaller young

The Anglican Mission nest and five eggs, in a very dry Christmas tree that lay flat on the ground.

was half eaten. The culprit probably was a lemming—small tundra rodents whose numbers were enormous then. The lemming is not strictly a predator but a spoiler of nests. In chancing on a nest it may eat an egg or two or simply disrupt the nest lining, causing the birds to desert.

The only other mammal of the area small enough to pass through the wire fencing was the weasel, a predator of renown. It seems likely, however, that a weasel would have eaten or carried off the whole brood. In any event the redpolls deserted. We found no evidence of a second nesting.

The female parent (26-04705) at the H B C nest was so broody that we lifted her off the nest several times daily in checking the five eggs. Of these, four hatched, the first on July 1st, the second on July 2nd, the third and fourth on July 3rd. We banded the young (26-04707, -08, -09, -10) on July 11 when they were much too large, for upon being handled all four attempted to bolt. We managed to put them back in the nest but they left later that day. At least one perished during inclement weather that followed. We found it—the third young of the brood—on the ground eight feet from the nest the following day. Had it not left the nest prematurely, it surely would have been brooded at a critical time. So exacting is the arctic requirement that even slight deviations end in death.

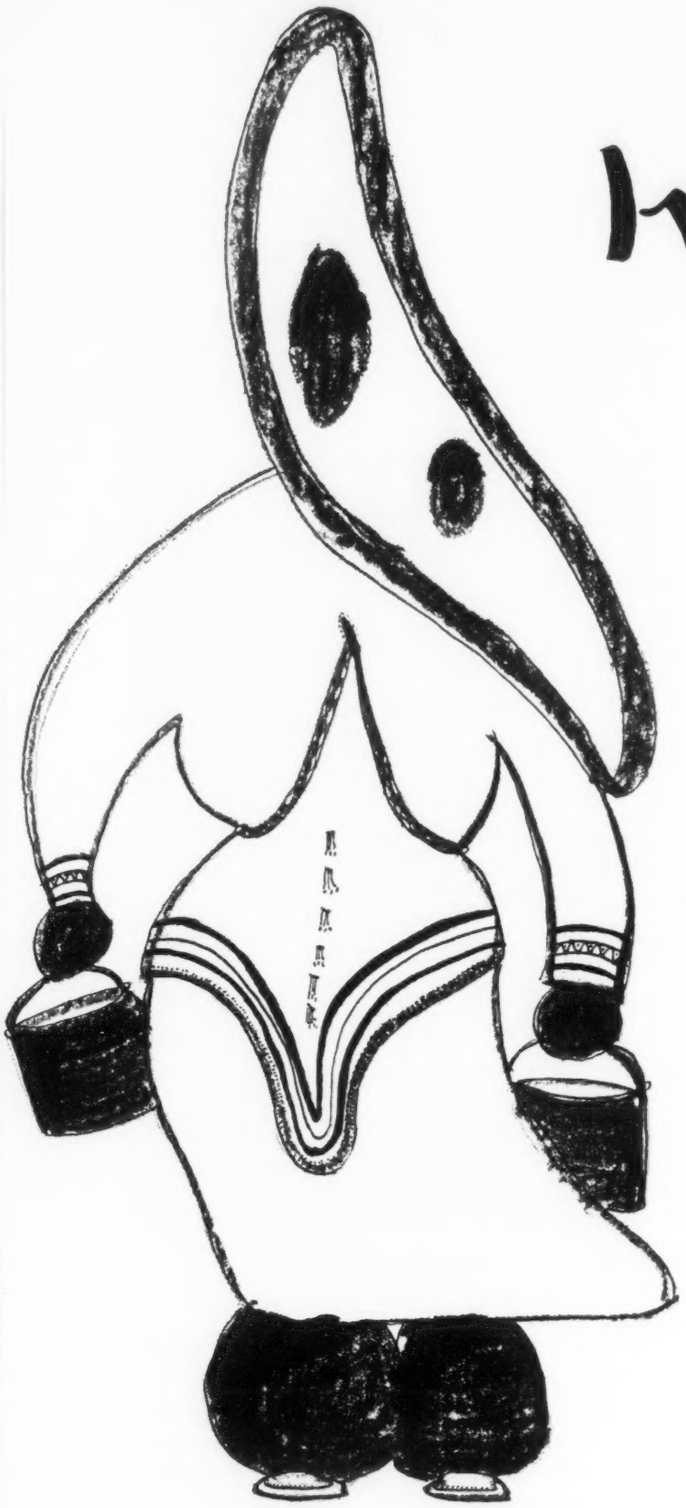
The redpolls were only occasionally noted by us thereafter. We last saw them August 14th—two birds side by side on the porch railing of the nursing station. Throughout their residence the redpolls favoured the artificial environment and were never seen outside the village.

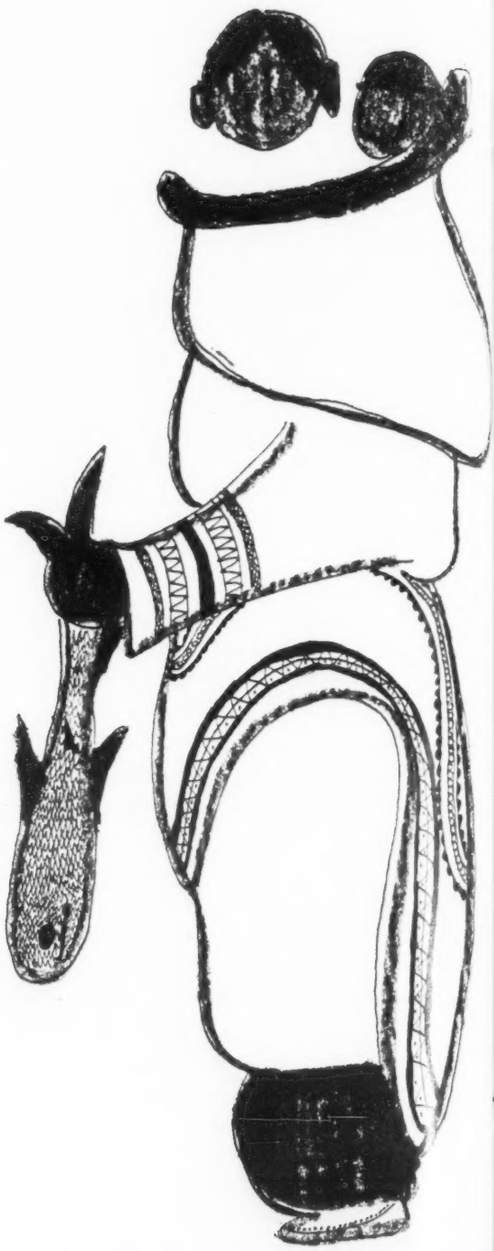
This redpoll of the Hudson's Bay Company nest preferred a remnant Christmas tree to native shrubs of the region.

The redpolls were probably still at Cambridge Bay when we left the country on August 30th. The species is known to start its southward migration in September when winter weather returns to the arctic. Where the Christmas-tree birds go is still a mystery and will remain so unless one of the banded birds is recovered farther south—and only if the finder reports the band number to the Canadian Wildlife Service or the U.S. Fish and Wildlife Service.

In the meantime the people of Cambridge Bay plan to watch and preserve that little band of adventurous redpolls. If you reside in a place like Cambridge Bay, do save your tree for the very special Christmas-tree birds! ◆

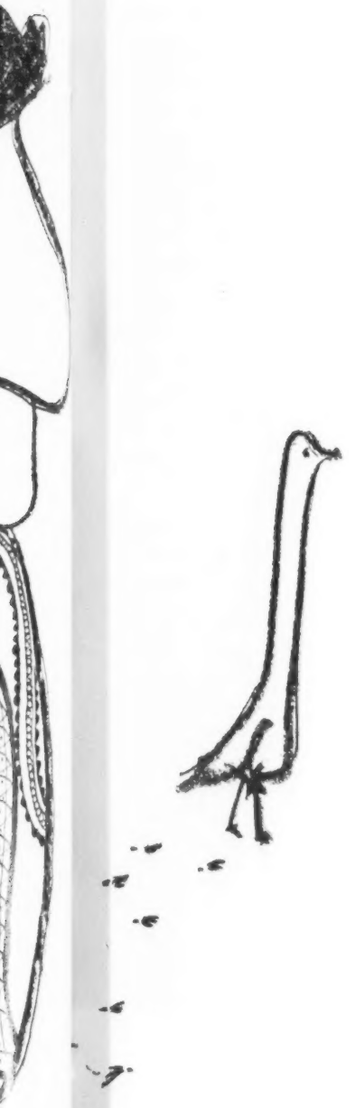
Impressions





By Marion Robertson

Ptarmigan Time



The young bride of the HBC manager at Povungnetuk records her first impressions of the local Eskimos soon after her arrival from Scotland

1 ▲

H'KUSAM
a Kwakiutl village

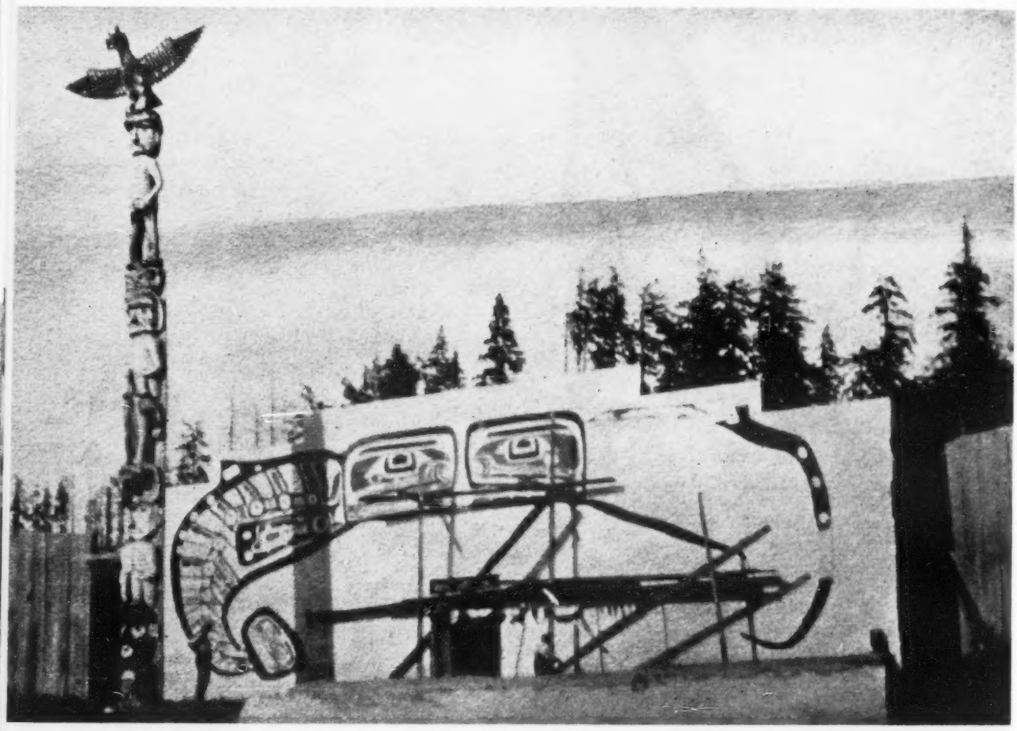
BY ERIC D. SISMEY

IT might be quite difficult to find an Indian village better documented, photographically, than the old Kwakiutl village H'kusam on Salmon Bay at Sayward, Vancouver Island.

My curiosity was first aroused in 1953 when I had gone to Sayward for salmon fishing. One day near the river mouth my attention was called to a fallen, broken totem pole on the deserted Indian Reserve. One of the broken sections portrayed a white man dressed in what appeared to be an early Victorian sailorman's uniform. I decided to find out more about him.

Early photographs, figs. 1 and 2, by E. Dosseter of Victoria, show the village of H'kusam as it appeared around 1880. Nine communal houses can be counted and it may be assumed that the village sheltered between one and two hundred souls at that time. One of the photographs (fig. 1) was used by Dr. Franz Boas to illustrate "The Kwakiutl of Vancouver Island," and it is likely that H'kusam appeared essentially the same at the time he was there in 1897 on the Jesup Expedition.

It will be noted that some houses are sheeted with horizontal planking

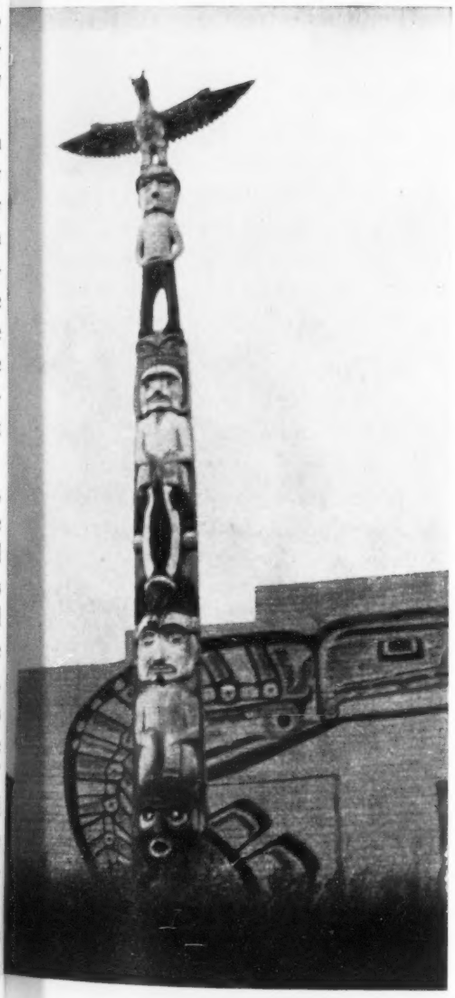


3 ▲ *c. 1905-10. Fred L. Beecher*

Retired electrical engineer, Mr. Sismey studies and writes about northwest Indian culture and folklore.

2 ▲ *c. 1880. B.C. Archives*

4 ▼ *1914. Mrs. W. Emerick*



while others are planked vertically. Horizontal planking was the earlier method of wall construction, but when nails became available through contact with traders a change to vertical planking was made.

In fig. 2*, two totem poles are shown in front of old style houses and in fig. 1, one of the totem poles is shown in greater detail. This pole and house belonged to Geekanees (Very great man, over and over again). Both poles, topped with hatted human figures, appear to be of crude design and show none of the traditional symbolism that is usually associated with totem poles. Dr. Marius Barbeau wrote: "Totem poles among the Kwakiutl and Nootkas are very recent; hardly any of them, as they are currently known, antedate 1880. The most familiar of the Kwakiutl poles, those of Alert Bay, were carved and erected since 1890."

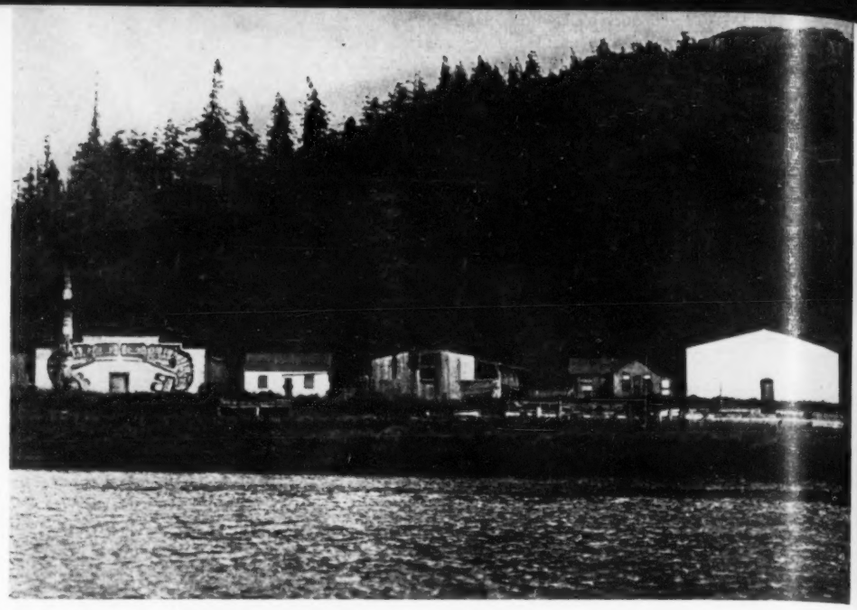
On the right side of fig. 2 there is a third style of Indian house. This belonged to Homissalatl (This man would never run short of gifts at potlatches). Its construction is unusual in that the ridge of the roof is parallel to the shoreline instead of being at the conventional right-angle. At the far end of the village is the house of Weyklakalas (Potlatch gifts too heavy to carry), the father of Heywaukalees, Johnny Moon.

Soon after the turn of the century, when milled lumber became available, some Indians took advantage of the new material to cover their house fronts. Weyklakalas did this, and fig. 3 (about 1905-10) shows his half-completed house-front painting of *Gweyim* (Whale), a hereditary crest. The pole in front belonged to Johnny Moon.

The late Chief James Martin Smith, Kwakiutl of Cape Mudge, then living in Nova Scotia, gave me the story of Johnny's totem pole (fig. 4) which, he said, was carved in the north and towed to Salmon River. At the top is Thunderbird (*Tsoona*) a crest (*keysoo*) acquired through the Cape Mudge Kwatiutl; next Matha Hill, a white man, another *keysoo*; next, Beaver (*Tsawi*) another *keysoo*; next, a white man, bodyguard of Matha Hill; next Wolf (*Alanum*), the historical ancestor of the Moon family; next Matha Hill's second bodyguard; and at the bottom of the pole, Dsonoqua, Wild Woman of the Woods, another *keysoo*. Photographed in 1914.

*This picture was used erroneously in Autumn 1961 *Beaver* as depicting a village on Bentinck Arm.

By legend, the Matha Hill crest honoured a deep friendship between one of Johnny Moon's forebears and a white sailor; Johnny was very proud of his whiteman *keysoo*. At small gatherings the pantomime of Matha Hill (represented by Johnny's eldest son) dressed in gold-braided old fashioned tunic, white striped trousers, white shoes and flanked by his two bodyguards was repeated again and again.



5 ▲ *Between 1914 and 1920. Bill Ellis*

6 ▲ *H. O. Sacht*

7 ▼ *1923. Frances Duncan*

Now it appears that the mysterious Matha Hill was none other than Captain W. H. McNeill of the H B C steamer *Beaver*, later Chief Trader at Fort Rupert. The following account from the journal of Governor George Simpson when voyaging along the coast in 1841 explains it:

"The Indians made sad work of Captain McNeill's name, for whenever his head showed itself above the bulwarks, young and old, male and female, vociferated from every canoe, Ma-ta-hell! Ma-ta-hell! Ma-ta-hell!—a word which, with the comparative indistinctness of the first syllable, sounded like a request on their part that their trader might go a great way beyond the engineer's furnace."

H'kusam was not always Kwakiutl. In Vancouver's time, 1792, the Comox Salish occupied villages at Cape Mudge and through Seymour Narrows until they were driven out by the Kwakiutl. Of ten Comox tribes in the area between Sayward and Comox, five belonged to the "Whale House." It seems likely that the Moons acquired their right to the whale-house painting through the Comox and it may be significant that Johnny's son, Moses Moon, moved to the Reserve at Comox when H'kusam was abandoned.

Sometime between 1914 and 1920 (fig. 5) there had been changes in H'kusam. Johnny Moon's pole stands in front of the Whale-House, but on the right, the old communal house has been replaced by a whiteman style cottage, the Zumzagaw house is in bad repair, Quaquikyolas has built a conventional cottage, and Geekanees has covered and painted his house-front.

Chief J. M. Smith wrote that following 1914 H'kusam was mainly used as a winter camp and that the village was finally abandoned about 1918. It is probable that the war and the influenza epidemic contributed to its abandonment.

Another step in the decline of the village is shown in fig 6. Johnny's pole is still erect and well preserved but the Whale-House is partly dismantled. Johnny was living in a whiteman style cottage which he built down-river at Nulgumps.

By August 1923 only the huge cedar logs that were the framework of the Whale-House still stand (fig. 7).

In 1953 I photographed the vista (fig. 8) along the old village site where the big communal houses once stood. Low dirt banks and a shallow excavation and a leaning house-post were all that remained of the Whale-House. And some time in the past thirty years the winter winds had brought Johnny's pole crashing down.

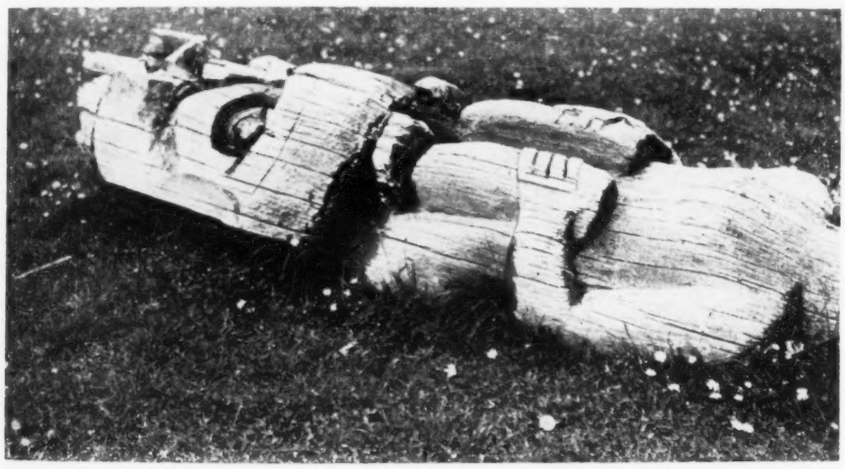
8 ▲ *1953. Eric Sismey*

There was a forgotten Indian graveyard just beyond the trees, where three leaning grave stones were choked by a tangle of bracken and salal. Below, there was a little beach and a running spring. The Indians called the place "Nulgumps" (beach facing up-river). No trace of Johnny Moon's cottage remained, but the trees he planted before the village was finally abandoned still bore fruit.

The name Moon, Chief Smith said, is a translation of Mukquela, the Maquinna of the west coast. The Moons also had a greater name, Naquahalees, meaning moonbeams shining all over the world.

Part of Matha Hill's second bodyguard and the top of Dsonoqua's head lay shattered in the grass (fig. 9) with the prostrate figure of Matha Hill (fig. 10). This totem effigy of the Chief Factor, Captain McNeill, hands still deep in trouser pockets, was rotting on the ground amid scattered fragments of the broken pole.

One cottage (fig. 11) was occupied long after the rest of the village was abandoned. The inside of the derelict cabin had been papered with magazine sheets which, in 1953, hung in tattered shreds. One sheet from an Auckland, New Zealand, magazine was dated September 13, 1906.



9 ▲ *1953. Eric Sismey*

It is little more than a long lifetime since Dosseter took the first photographs of the village. There is no one there now and in a few years more the traces which still remain will moulder back into the earth of their origin.

And then, nothing of old H'kusam will remain at all. ◆

10 ▲ *1953. Eric Sismey*

11 ▲ *1953. Eric Sismey*

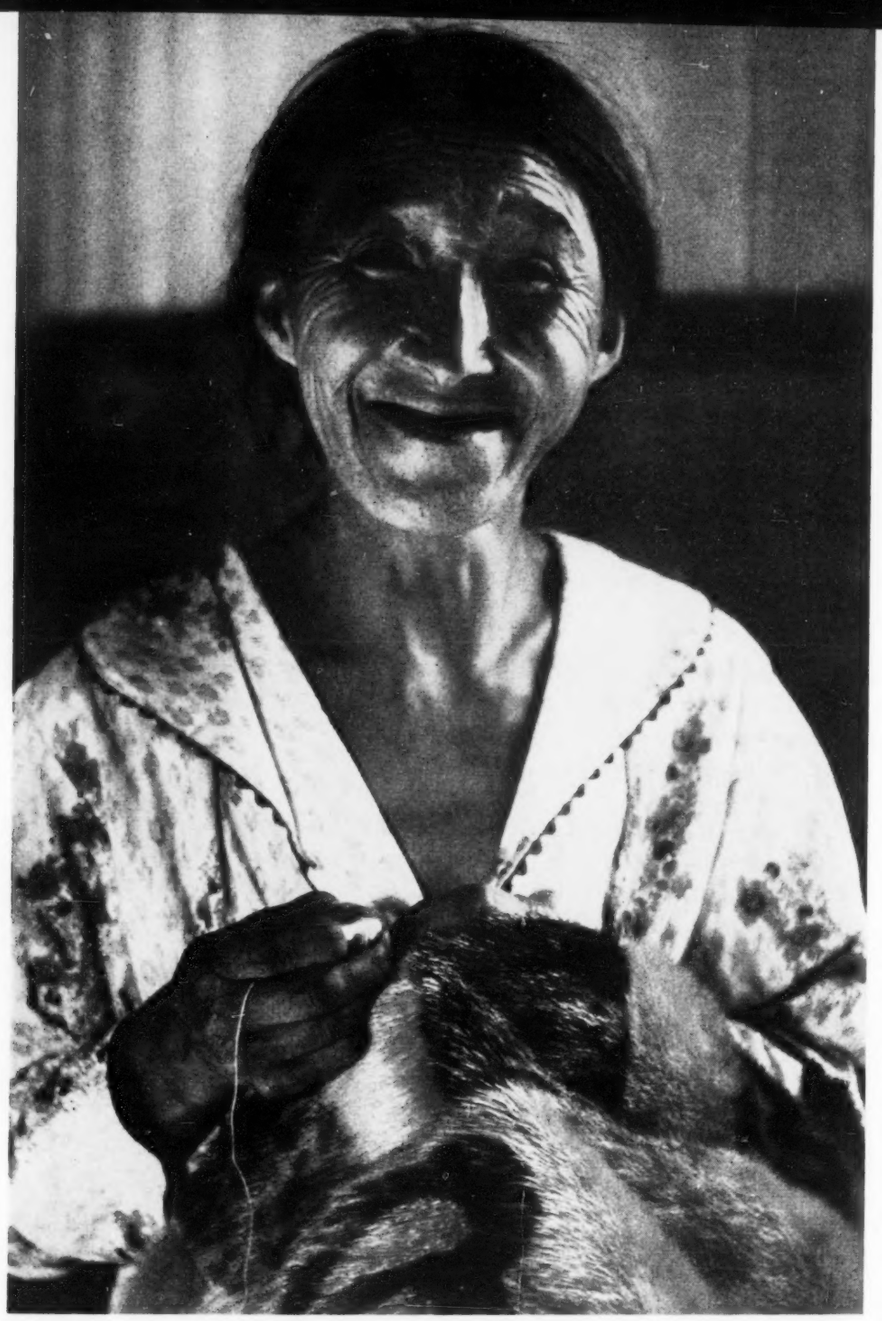
THE SHAGGY TOYS OF PORT BURWELL

Two sealskin birds on sea ice, photographed against the frowning cliffs of the fiord at Port Burwell.

Photographs and story by

ROSEMARY GILLIAT

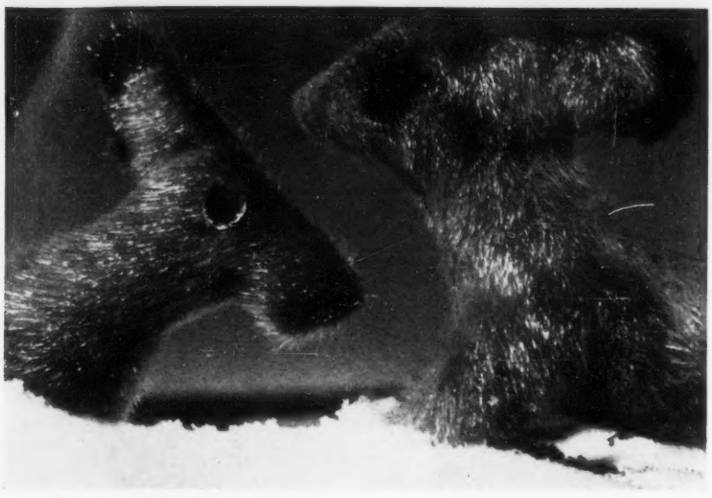
Additional notes by W. A. Larmour



LAST AUTUMN several hundred arctic seabirds were shipped south—but they were not, like the arctic char, destined for the table. These birds are sealskin toys that are being made by the Eskimo women of Port Burwell at the top right-corner of Ungava Bay in the Canadian Eastern Arctic.

Most of the toys represent birds; they are all a bit whimsical and could be styled "Shaggy Ducks." There are also seals, dogs, whales, hares, and one strange little sprite. Children seeing these toys for the first time were delighted with them, especially with the silvery silky ones that were so soft to stroke. If Emily of Port Burwell could have seen the pleasure her toys gave to these children in the south, she would have been very pleased indeed.

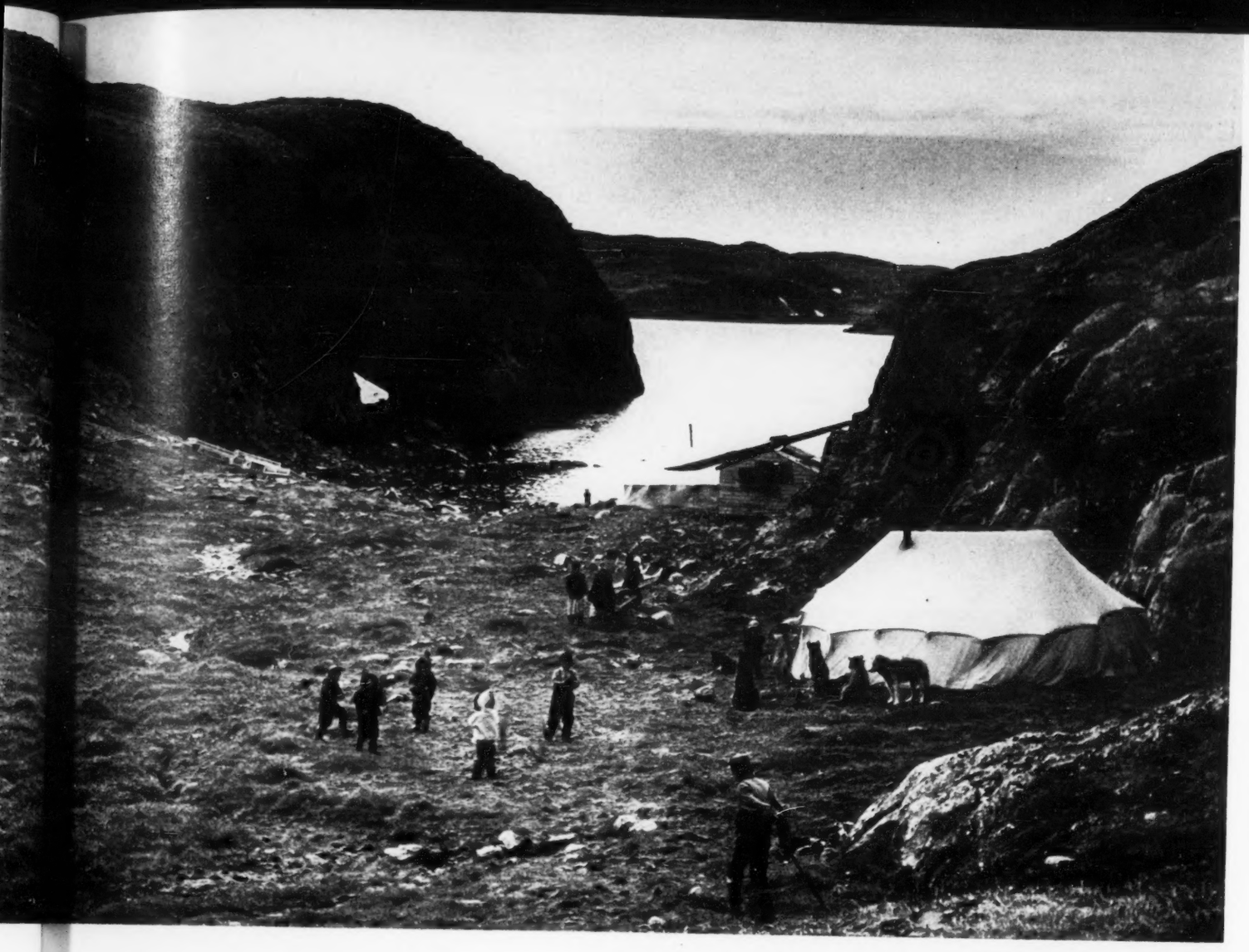
Besides these engaging toys, some sealskin rugs of high quality have come from Port Burwell. They are made of silver jar sealskin inset with designs of dark brown skin, depicting birds, bears, people, dogs and so on, and are used as hangings or on the floor. One is now on display at the airport at Montreal.



Toy arctic hares.

The Eskimo people of Port Burwell form one of the most isolated and unusual communities in Canada, and one of the smallest, for there are only 32 of them, men, women and children. They live in a strange and melancholy, beautiful setting, of steep cliffs crashing down into long deep fiords, of violent sea currents, tides of great depth and force, winds that tear houses apart, of incessant fog and moments of brilliant sunshine. Here today the Eskimo still hunts the seal with the kayak and although he has a rifle, clings to the spear. More than this, he clings to the pattern of life of his ancestors, knows little of any other, and does not want much part of it, except some of the advantages such as better housing than an igloo or tent and the means to make life pleasanter and healthier, particularly for his children. He has no wish to leave his rugged home country.

The boys inspect Emily's shaggy duck.



Sealskin-clad doll, 18 inches high, stands by lichen-covered Burwell rock.

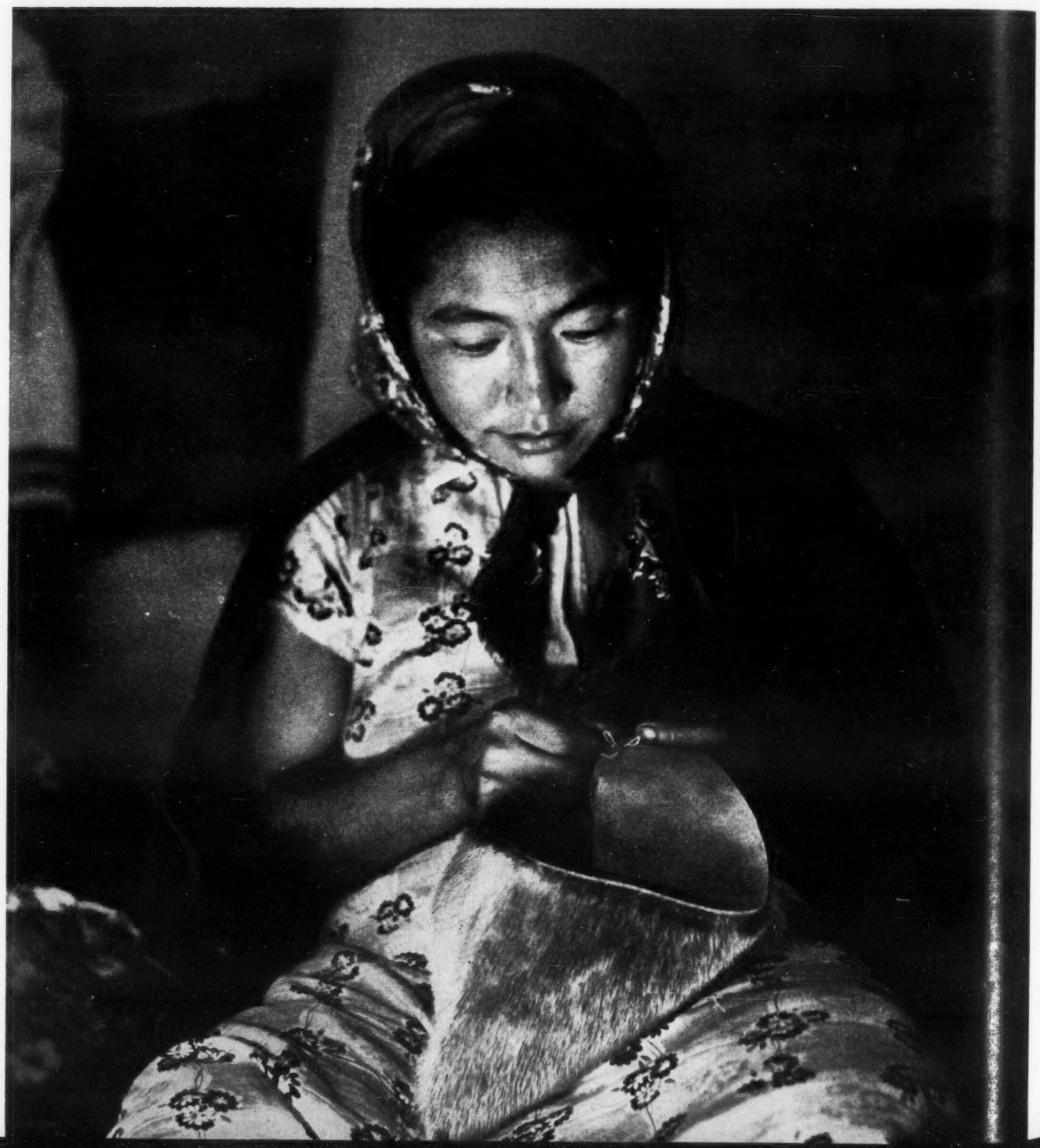
Emma's sealskin rug is shown to W. A. Larmour, Northern Affairs officer. Emma is paid by Henry Anatuk (second from left) who operates co-operative store.

The best examples of the toys of 1960 were placed on exhibition at the Design Centre in the National Gallery in Ottawa, and many thousands of people were intrigued and charmed with them. The exhibit was put on before Christmas and parents were clamouring to know where they could buy these toys. The first three hundred were put on sale at the Canadian Handicrafts Guild in Montreal and had all been snapped up within a few hours of being displayed.

The sealskins were cured in the south, a new technique adapted to an old craft. The skins, from seals taken by Burwell hunters, cleaned and scraped by their women, were shipped out for commercial tanning. The natural oils that would rot the hides in a warmer climate were removed and the skins made soft and pliable and lustrous. The Eskimos quickly appreciated the advantage of tanned skins and liked working with them.

Most of the women of Port Burwell have tried their hand at making these toys and enjoy the work. Nearly all Eskimo women are beautiful needlewomen by southern standards, the result of long training in sewing all their clothes and kayak coverings. The woman may first

Emma Anatuk working on a sealskin hat.



make a rough drawing of the bird or animal she is going to make. Then she may forget it for a while and make a seal-meat stew. Coming back to it, she cuts out a pattern from a piece of cardboard. This pattern is then submitted for criticism to the family and a lively debate ensues as to what it represents and whether it is correct. When this has been settled and perhaps another pattern cut, she takes the sealskin. At this point something quite remarkable occurs. More often than not, she cuts the design directly out of the skin without using the pattern at all. This is when all her experience, imagination, and skill come into play, and she makes no mistake. Then she holds it up and everybody examines it again, and this time with great glee, for this is one side of a bird. When both sides are sewn together sawdust, which they had never used before, is poured in. All this is productive of much mirth. The first batch of toys was stuffed with sawdust from a sawmill in the Ungava Bay area. At Burwell there are no trees, seal oil provides fuel and light and every bit of driftwood is precious. Now cotton is being used for toy stuffing instead of sawdust.

This new addition to their income from the women's work is a real help to the family economy; till recently it was only the man who earned an income.

It is to be hoped that Eskimo women in other areas will start making toys (there have already been some from Sugluk) so that next Christmas more southern children will have a chance to enjoy these little ducks—and perhaps Eskimo children as a result may be able to have better clothes and food. ◆

Miss Johnson is a British Columbia writer with an M.A. in history who lives in Nanaimo.

Teacher and Preacher
CORNELIUS BRYANT

BY PATRICIA M. JOHNSON

IN 1857, there came to "Colviletown, Nanaimo, Vancouver's Island" a young man, Cornelius Bryant, whose whole life was to become part of the growth and struggles of the coal mining settlement started by the Hudson's Bay Company. The Company needed coal at its posts, and found it expensive to transport such a heavy cargo from England round Cape Horn for use in the blacksmith's forge at Fort Victoria. Since coal seams had been worked at Fort Rupert on the northeast of Vancouver Island since 1835,* some experienced miners had been brought out by the Company to those mines, but the coal was of poor quality and the Indians were troublesome. In consequence most of the miners left for the goldfields of California. In 1852, the Hudson's Bay Company had taken possession of the coal beds at "Wentuhuysen Inlet, commonly known as Nanymo," and Chief Factor Douglas, by then Governor Douglas of the Crown Colony of Vancouver Island, reported on the three seams of coal whose "discovery has afforded me more satisfaction than I can express." The remaining miners were brought from Fort Rupert to Nanaimo, and under Joseph Mackay, who had been clerk at Fort Victoria, the first shipment of coal, 480 barrels, was taken by the schooner *Cadboro* to Victoria. The actual collecting of the coal from the surface seams was done by the Indians, and Mackay reported:

> The great part of the *Cadboro's* cargo was purchased with small trade. A few of the chiefs have retained their tickets until they can afford to purchase blankets . . . an able man can earn at the rate of one shirt per diem.

Now that the Company had a mine, it had to provide some protection for the miners, and the following year a three-storey bastion was built on the water front. The main floor was used by the Company as an office and store, the second housed the carronades and other weapons, and the third was large enough to shelter all the settlers in case of attack from the Indians. The Company surveyed the harbour, built a sawmill powered by water on the nearby Millstone River, then had to consider the matter of population in the small community. The first white boy, Alexander Dunsmuir, was born in 1853, and the first white girl, Margaret McGregor in 1854, the children of Scottish miners, but the total white population was only twenty-one. It was decided in 1854 that the Company would bring out a number of miners and their families to provide a permanent settlement at Colviletown, named in honour of the Governor of the Company, Andrew Colvile, who forecast, "Should the coal lately discovered prove to be a workable seam, there will be employment for a large number of people."

The new settlers came from Brierley Hill in Staffordshire, and after a six months voyage round the Horn in the *Princess Royal* landed on Pioneer Rock just below the Bastion in November 1854. There were twenty-four families composed of seventy-five individuals, and they were under the direction of George Robinson who had

*See "Coal for the Warships," *Beaver*, June 1951.

Nanaimo from Douglas Island in 1857, the year Bryant arrived, sketched by James Alden who was with the U.S. coast survey.

Washington State Hist. Soc.

journeyed out with his wife, son, daughter, and maid, and acted as mine agent for the Company. Mrs. Ann Robinson and a four month old son died in January 1856, so George Robinson sent to England for his sister, Maria, who came out with her daughter, Elizabeth, her son, Mark (who later became Nanaimo's first mayor), and her nephew, Cornelius Bryant.

Bryant was born at Netherton, Worcestershire, in 1838 and received a good education. He was a serious young man who throughout his life recorded events and impressions, first in a diary kept from August 1856 to January 1860, and later in a series of letters written mostly to the Reverend Ebenezer Robson with whom he became associated in church and mission work. He also kept scrapbooks of clippings, sermon note books and commonplace books in which he recorded verses of poetry, lines of hymns, and personal reflections on religious and other topics. Much of this material is in the British Columbia Archives, while the journal of the early years on Vancouver Island is a treasured possession of his grandchildren who live at Ladysmith, near Nanaimo.

The Company, ready to do its best for the settlement, had brought a teacher, Charles Bailey, from Fort Victoria in 1853 to open a school. Mr. Bailey left the settlement, so George Robinson had applied to Governor Douglas for the position of schoolmaster for his nephew, then nineteen years of age. Cornelius journeyed from England in the *Princess Royal* taking five months, and his diary records the passage as "one of the happiest times of my life." On the first day out "we regaled ourselves in aunt's cabin on roast beef and white biscuits," later receiving

> our first supply of provisions from the ship's stores . . . four of us receiving twelve pounds preserved meats, soups in tins, plenty of suet and butter, four pounds of salt beef, sea biscuits, one pint of grog (among other things) . . . we have three gallons of water per day, take our things to the cook for preparing our meals.

Near the Canary Islands, a flying fish "hopped on deck, was caught and eaten," while near the Equator, a shark was baited, hoisted on board, cut up and eaten for breakfast—"it was very rich and fatty."

Throughout the voyage mention is made of the Sunday services held by the captain, for Bryant was to become first a lay preacher then an ordained minister. Sometimes the services had to be abandoned. "No prayers to-day it being too wet and squally," or "prayers in the Chief's cabin, it being too cold upon deck." Then off Cape Horn, "no prayers, the weather being too rough

and boisterous," while on one Sunday, "Prayers by the Captain who in his sermon said the ocean (at that part) is supposed to be 2500 fathoms deep."

On 17 January 1857 Bryant went ashore at Fort Victoria and was able to attend services held by the Reverend Edward Cridge, the Colonial Chaplain. A week later he was interviewed by Governor Douglas regarding employment as a school teacher, and was sent by the Governor to Mr. Cridge for an examination. The examination took place the following day, and the young man went back to the Governor with a note from Mr. Cridge and reported:

> The Governor was pleased with Mr. Cridge's account of my abilities and expressed his pleasure in giving me the position of Teacher at Nanaimo. For which I thanked him and I also thanked Mr. Cridge for his kindness.

Bryant was to begin work immediately, so he boarded the schooner *Recovery* which was towed by the *Beaver*, and arrived at Colviletown on Sunday, February 1st, to be warmly greeted by his uncle, George Robinson. And here, at the end of the first part of the journal, Bryant closes with the expression of faith that carried him through all his life.

> Through Waves and Clouds and Storms
> He Gently Clears The Way,
> Wait Thou His Time So Shall This Night
> Soon End In Joyous Day.

On February 12th Bryant began his work in the Colviletown school and also conducted the religious services, reading prayers each Sunday. Three months later when Governor Douglas, Chief Factor Dallas, and Reverend Edward Cridge came to the settlement, Mr. Cridge examined the children and the governor and his suite attended the examination. A large house was provided for the young schoolmaster in June, and he appeared to be making good progress for in January 1858 he wrote:

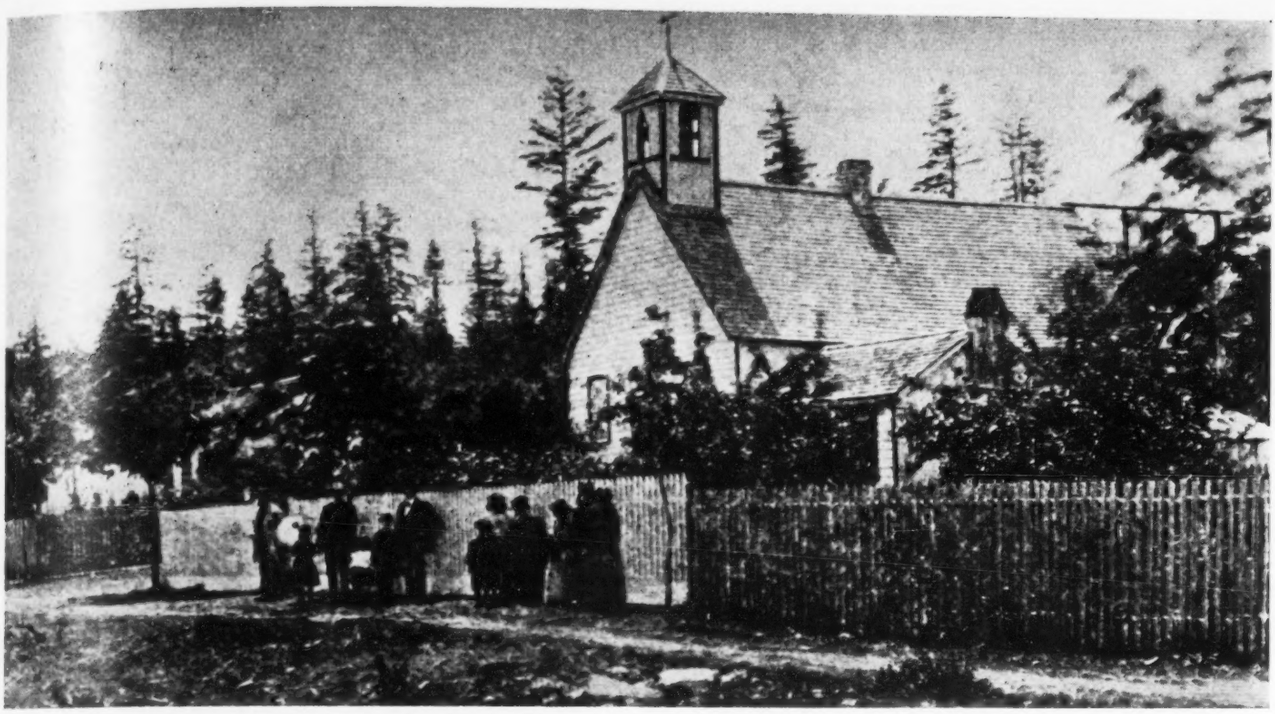
> His Excellency Governor Douglas who arrived here a few days previous attended an examination of the children today in the School. He expressed his pleasure in witnessing the proficiency and clean appearance of the children. I saw him again in the evening when he again expressed his gratification on seeing the general progress of the scholars.

In August another outside examination was held at the school when "the scholars passed an examination before Captain Prevost and lady of H.M.S. *Satellite*."

In December, 1858, Cornelius Bryant received another position in addition to his duties as schoolmaster. He was appointed the first postmaster at Colviletown or Nanaimo as it was usually called, and received letters of instruction regarding his new work from Postmaster General Anderson.

In 1859 the government of the colony of Vancouver Island was transferred from the Hudson's Bay Company to the Crown, and this affected the position of Bryant as the Company schoolmaster. Chief Factor Dallas interviewed him on November 21st, and informed him that the Company would no longer pay his salary and that he must inquire from Governor Douglas as to how he would be paid. He was also told that he must give up the house he occupied, but he was allotted two rooms at the end of a larger house in which his uncle had been living and a room in the same building was set aside for the school. His connection with the Company was not completely severed for he was to continue copying and making out the accounts for the miners' wages each month for Mr. Farquhar, for which he was to receive £6 a year. Bryant's uncle, George Robinson, who had re-

Nanaimo in 1858. The bastion was built five years earlier. B. C. Archives



The Methodist Indian Mission, probably about 1880. Cornelius Bryant is at the extreme left, with his children. On the right are Indian members of the congregation. *B. C. Archives*

married in San Francisco, left for England with his family now that the Hudson's Bay Company connection with the mines was ended.

Early school records give the names of Bryant's pupils, many of whose descendants are found in Nanaimo today. The students were required to pay an annual fee and were to be instructed in reading, writing, grammar, arithmetic, geography, history, and scripture. Many difficulties were faced in the collecting of fees, and writing to Robson in July, 1863, Bryant mentioned that his salary had been raised to £200 a year by Governor Douglas and goes on,

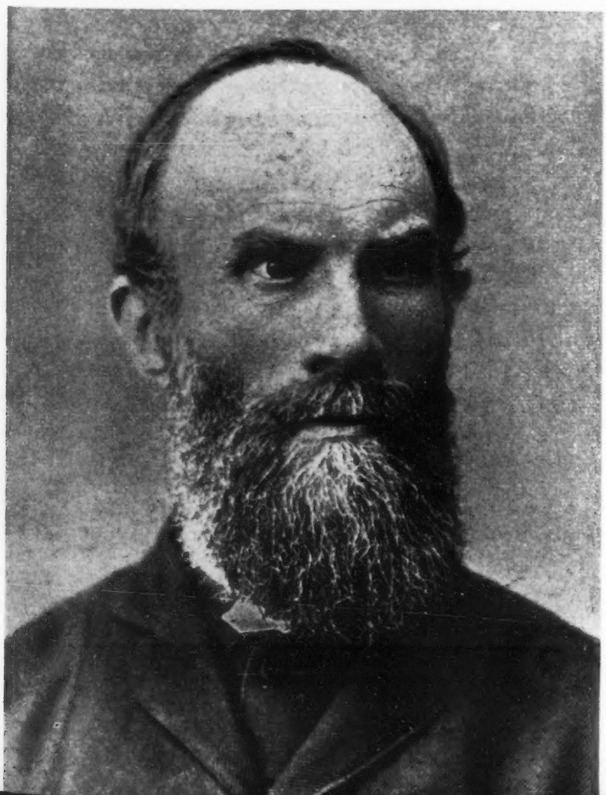
> This of course makes my situation a tolerably good one. I did think of shutting up shop and going home, but really if I could by some means or other induce a female acquaintance to come here from home I think it would be my best policy.

Bryant was, apparently, quite serious in his intention for, in March 1864 he was married in Victoria to Miss Elizabeth Murdow from Brantford, Canada West, and their first son was born in December at Nanaimo.

Encouraged by Douglas and Cridge, Bryant had held regular services at Nanaimo, really representing the Anglican church as a lay reader. His congregation was not always encouraging as he recorded on 14 November 1858, "One adult only at Prayers today." But a change was coming, for the following February Reverend Arthur Browning, one of four Methodist ministers sent out from Ontario, arrived in Nanaimo and took charge there. He preached "to a large company, the school being full," and after a series of meetings Cornelius Bryant and several of the miners received admission into the Wesleyan Methodist Church. The group of children whom Bryant had been teaching on Sundays were organized into a regular Sunday School, and on 21 August 1859, "We held our first Sunday School tea meeting, the first one ever held of any sort in Nanaimo," with Doctor Benson, the Hudson's Bay Company surgeon, in the chair. At Christmas time, the children of the Sunday School were again in the public eye:

> We had a treat of Tea, Tarts, etc. Plum Pudding, and Ginger Bread. Afterwards at five o'clock the adults partook of similar fare. Mr. Nicholls gave presents of books and toys away to the children.

The adult population presented many difficulties and Bryant deplored the use of intoxicating drinks remarking sadly, "The devil has certainly been at work with some measure of success in our midst of late."



Cornelius Bryant, from a photograph taken in Portland, Oregon.

Ministers came and went, but Bryant continued his work as a layman at Nanaimo. In 1860 a Methodist mission to the Indians was built by Reverend Ebenezer Robson to provide both a church and a school. This was on the edge of the town of Nanaimo itself as the Indians had not yet been banished to the still existing reserves. The church building was later taken over by the Vancouver Coal Mining Company which bought the mines from the Hudson's Bay Company in 1862, and a new Indian church was built on what is now the Number 1 reserve south of the town. To the Indian church came the famous west coast missionary, Thomas Crosby in 1863, and he wrote of the welcome given him at Nanaimo by "Brother Bryant, afterwards the Reverend Cornelius Bryant, at that time the oldest Methodist in British Columbia." He described Nanaimo as "a small town almost entirely built of logs situated on a hillside facing the harbour, with a large Indian village a mile away along the shore."

Bryant worked with both the miners and the Indians in the churches and was appointed Exhorter to the Nanaimo Wesleyan Mission in 1867 and the next year was licensed as Local Preacher of the Nanaimo circuit.

In 1870 Cornelius Bryant ceased to be a schoolmaster and gave the rest of his life to full time work with the Methodist church. His school had been non-sectarian, but he complained bitterly of "our old trouble, church and state" and had already decided to give up teaching when the church asked him to leave Nanaimo and go to New Westminster for itinerant work on the mainland. He left in August and wrote:

> It is so difficult to pull up roots of friendly intercourse and association, having been in the soil for $13\frac{1}{2}$ years, although that soil was poor black Nanaimo.

It was during this period that he recorded an amusing incident concerning the mosquitoes of the Sumas region (described in agonizing detail by members of the International Boundary Commission ten years earlier). Travelling in the area, he spent a night with friends who had no protection to offer from the rapacious insects. A young lady of the family had just got a new crinoline so this was given to Bryant as a partial protection, and he retired to bed with the crinoline canopy suspended from the ceiling. Unfortunately, he elected to read in bed, set fire to the crinoline, and had to make restitution to a grief stricken young lady for her damaged finery. This is one of the few humourous tales that Bryant recounts. He took life very seriously, and while his journal abounds in poems of praise and contemplation, many of his letters are full of earnest comments on the shortcomings of his fellow workers, especially any Episcopalians he met.

He was at Nanaimo again in 1875, then visited Ontario where he was finally ordained as a minister of the Canadian Methodist Church, his previous connection having been the Methodist Conference at San Francisco. After being stationed at Burrard Inlet he returned to Nanaimo in 1881, when he wrote, "I have found this station a wreck. I never saw anything more discouraging." He then served at Chilliwack, Rivers Inlet, Hammond, and Mount Tolmie near Victoria. After his wife died he lived, in retirement, with his son, Wesley, in Vancouver, and on 14 May 1905, he died during a session of the British Columbia Methodist Conference. He was buried beside his wife in the cemetery of "poor black Nanaimo."

Bryant worked among the coal miners, but he often deplored their ways and the conditions under which they lived. At the age of 16, in England, he had signed the total abstinence pledge, so he was set against drink of which there was plenty in early Nanaimo. He hoped that preaching against the sins of the "hard cases" would lead to changed lives, but in 1877, he was still concerned about the drunkenness and immorality particularly of the "squaw men" as he called those who took Indian women, and he regarded them as "inferior morally." The leaders of the community did not escape his censure and he referred to those "driving along in their fast carriages and their children . . . riding their fast horses and some of them I fear having their fast habits also." The behaviour of the children distressed him for he regarded their profanity on the streets as appalling and on his return to Nanaimo in 1881 complained that even the Sunday School children insulted their teachers and "abused every unfortunate Chinaman they met enroute from Sunday School until they got into a regular scrimmage."

Explosions in the mines at Nanaimo were a common occurrence, and Bryant recorded one disaster in May, 1879, at the Wellington mines (which belonged to the Dunsmuir family and were situated six miles north of Nanaimo), when "five men were buried from our Nanaimo church at once, and one was Reuben (14), Samuel Gough's brother. It was an awful scene." Miners' strikes became more frequent as the workings developed, and Bryant wrote of the miners at Wellington who had gone on strike being ejected from their rented houses and having to live in the bush. He felt the Nanaimo miners were justified in striking for more pay as he did not see how they could get living wages at the rate offered.

Bryant interested himself in the Indians from the time of his arrival at Nanaimo, and in 1858 described an Indian chief, "Joe," who

> . . . shewed me a gun in his possession which had 65 bits of Brass inlaid in one side of its stock each one standing for one

"Coal Tyee," who showed the HBC where to find coal at Nanaimo.
B.C. Archives

Indian who had been shot by it and on the other side were a large number more of bits of Brass denoting how many slaves had been took in affrays in which the gun had taken an active part. "Joe" himself owned to having slain 25 by it and he had took 40 slaves beside. He said that he had the scalps of the 25 he had slain in two boxes which they filled at his house.

He worked among the Indians long enough to form some definite, if not always popular, conclusions. To him, sin was sin, and must be condemned. It was no good telling the Indians that their hearts were good for they were depraved and must be struggled with. He blamed much of their immorality on the white settlers and declared that the only effective work to be done with the Indians must be in an area removed from white settlement.

> Anyone who has laboured among the Indians (especially the Flatheads) knows that successful mission work can only be done in a district free from the surroundings of city life. This is my opinion whether it is Methodist, Anglican, Roman Catholic or any other body.

He had been associated with Thomas Crosby in the work of the Indian Mission church and often took charge as lay preacher. He found that most of the congregation were women, "chiefly the white men's from the town," but old 'Coal Tyee' who had first reported the presence of coal to the Hudson's Bay Company, was often present. One of the first converts was Kook-shin (or Kicking Foot), an Indian who had worked for the Hudson's Bay Company, learnt English, and done a lot of drinking. He and his wife joined the Methodist church in 1864, and he acted as interpreter for Crosby and taught him to speak in the Indian tongue. He took the name of Amos Cushan, became a local preacher and missionary and travelled to the west coast and to the Fraser Valley to preach to the Indians.

The first marriage Bryant performed, for two Cowichan Indians in 1876, did not follow the usual lines for according to him:

> No sooner had I left the house when the bride's father (a Catholic) came and stole her away, and then gave our good brother Green at the Indian school and Cushan . . . a midnight's chase but to no purpose. Such is mission life at times in British Columbia.

Bryant was not always tolerant of Cushan's shortcomings and when he returned to Nanaimo in '81 he complained that the native missionary had not gone very far afield: "He says he could not do it while Mr. Hall was here as Mrs. Cushan always had to wash for Mrs. Hall and he could not go without her." The following year he recorded:

> Cushan has fallen again and tried to hide his drunken freak by deceiving me as before and lying terribly about it. . . . I tried to get him away to the mainland whither his daughter Sarah Jane has gone, but of no use, he seems bent on ruin. It is inexpressibly sad.

The Indian missionary died of consumption, but Doctor Robson writing of him in 1907 declared that in spite of his falls from grace he was "to the end of his life always concerned for the salvation of his people." The Methodist Indian Mission continues under the United Church of Nanaimo.

Those who knew Cornelius Bryant describe him as an impressively tall man with a reddish coloured beard. They tell of his love of reading, the books that he bought, his fine voice and love of music. They say that he was of a retiring nature and that others often got credit for the work he had started. Above all, they stress his kindness. His grandchildren loved to stay with him for the fun they had together, and Mrs. Margaret Kenny of Nanaimo, now almost ninety, tells of the great pleasure given to a small girl when the minister presented her with his daughter's tiny parasol when he and his family moved away.

Cornelius Bryant came to Vancouver Island as a teacher and, in one way and another, he taught others all his life. It is a hundred years since the Hudson's Bay Company gave up its rule on Vancouver Island, but its early servants who remained in the colony became an important part of the life of a growing province. ◆

THE FEARLESS ALOPEX

BY PHIL GRIBBON

A physicist working on low temperature research at the Royal Military College, Kingston, Dr. Gribbon was on an exploratory and mountaineering two-man expedition in the Cape Dyer area of Baffin Island when he met the fox in a setting of peaks and glaciers.

I WAS wide awake before all the dishes had clattered down the rocks. Snug within the sleeping bag, I had lain in a dreamy doze, vaguely aware of the raindrops spattering gently on the tent, and punctuated by stones rattling down the mountainside. The continuous roar of the great waterfall below the camp had become a background noise, which we no longer consciously heard.

At half past one on a dreary July morning in Baffin Island it was hard to think rationally about falling dishes. The DEW Line base was twenty miles of hard walking away—and sometimes elusive. Once three men had walked around it for hours in an enveloping fog wraith, leading to sufficient consternation at the base so as to earn them their prompt ejection to the safer southern latitudes, on their return. Eskimos only came down the northern pass to seal-hunt on the spring ice floes. Caribou existed only as mildewed antlers in the river gravel. The lemming population was reduced to two water-logged carcasses on a snow patch. The snow buntings were asleep. Hares were too timid. Bears? Feeling somewhat chill, I partially unzipped the mosquito net, and then the door . . .

Seated comfortably in the scattered dishes was the neatest, leanest, hungriest little arctic fox, the *Alopex lagopus lagopus*, yet to grace a dinner table. Deeply appreciative, he licked the salty smears of stew off the plates. He had set his stage for a performance whose artistry had no equal inside the Arctic Circle. He began by dodging the horrid impalement provided by an ice axe toppling into the turf. Revengefully he dragged my new climbing boots into the rivulet, a baptism which did nothing to improve their texture for either of us. His attentions turned to sucking the succulent rubber soles of my companion's shoes. When satiated, he strenuously pitted his puny strength against the massive packboard. It gave no response to his encouraging grunts and snarls, when bumped over the heathy tussocks.

No audience howled its chant of victory, but he was not the fox that would let the glory slip through his paw pads. Out of the highest tussock, he uprooted our faded flag. With it fluttering weakly out of his jaws, he circled solemnly about the defeated packboard. No Roman gladiator had more aplomb.

The next act provided an amateurish exhibition of conjuring. With nonchalance, he picked a spoon and tossed it after my submerged boots. He clamped a plate between his fangs and tore away over the tundra. This was the best vanishing trick I had ever seen because we never found that plate.

Sedately, he returned for a snifter of instant coffee, damp and dissolving in the drizzle. Actually, in spite of a morning coffee addiction, we think it was a he, although the lack of trees, telegraph poles and other usual aids made the exact determination difficult. So, he ate a liberal sandwich of soggy tea bags and toilet paper, choking it down in his enthusiasm. The tastiest dish he had left to the end. With the plastic jar of our marmalade securely held, he trotted off homewards. When the precious jam fell out in great gobs on the lichens, I burst through the remnants of the mosquito net, yelling abuse. I had expected a hurried flight, but was unprepared for the speed at which I was overtaking him. Not wishing to find myself in a situation, where all I would need to do to retrieve the marmalade would be to jump bodily on an insignificantly small fox, I saved face by stopping to hurl curses and empty cans at his departing rump.

Barefoot I paddled round the campsite, gathering in the scattered articles. The instant coffee was returned to its jar, sticky and viscous. The marmalade, solid in its matrix of moss, joined the black currant jam. Toothpaste

Leonard Lee Rue

went back into, and the boots came out of, the rivulet. An interested spectator sat watching the alien two-legged benefactor of bored foxes, me.

Out of the tent in which my companion slept dead to the world, I extracted my camera, raincoat, and hat, and proceeded to show my fox the art of the amateur photographer. Over the boggy tussocks, I crawled like an antediluvian monster, my glassy eye fixed on a fox, my body incarcerated in translucent plastic, my ugly pink feet protruding behind. He ignored me, as he tugged the packboard desultorily, or twisted into a savage flea chase. Having shot him with negative results, I tired of my ungainly occupation and rose up to full dignity, my blue feet, encased in grey long-johns, firmly planted in the heather stalks. He backed away with embarrassment. I asserted my superiority and, with a bellow, like a moon-sick muskox, pursued him once more across the landscape. We bolted off together with my fox in joyful pursuit of the stones I flung at him. I crawled back into bed, in frustrated wonderment. . . .

Wrapped in everything, we huddled over the bubbling stew, waiting for one carefree fox to saunter down the hillside. We greeted him politely and cocked the cameras. Foursquare, inviting his investigation, stood the empty instant potato carton, silhouetted against the fading glow on the high snowfields. I shot him at $\frac{1}{8}$ sec. with f 3.8 for 9 ft. as he moved in, snatched and left. We learnt that commercial advertisement does not succeed when "Foxy Loves Floppy Potato" is illustrated with a dynamic blob of smeared fox. We formally introduced ourselves, over an empty tin of corned beef. Shyly he sniffed and gently nipped a gloved hand. We had been accepted into his high northern society. It was a contented fox that lay outside the tent to chew a frozen bootlace.

Nevertheless, next day he took to strong drink. He bit the end off the fuel pump. He had survived teabags, toothpaste, and toilet paper, but naphthalene was too potently unfair. Fearless Foxy left . . . We were desolate. . . . ◆

NORTHERN ELLESMERE

The Canadian IGY Expedition to Lake Hazen*

BY G. HATTERSLEY-SMITH

Having started field investigations in northern Ellesmere Island in 1953, Dr. Hattersley-Smith of the Geophysics Section of the Defence Research Board led the 1957-8 expedition and served as glaciologist.

National Defence photos

Hazen Camp from the lake, May 1958.

THE imposing mountain ranges of northern Ellesmere Island form the northermost frontier of Canada against the Arctic Ocean. In the central part of these ranges, where elevations reach 6,000 feet over a fairly wide area, nearly all the land is covered by ice up to a thickness of about 2,500 feet; only the higher and more rugged peaks are bare. Valley and piedmont glaciers, from a hundred yards to several miles in width, debouch from the ice cap to lower levels. To north and south of the main ice cap there are local ice caps, and valley and cirque glaciers where elevations exceed about 4,000 feet, but here the land is mainly ice-free, with pleasant valleys gay with flowers in summer. The whole region has the low precipitation of a desert, yet in the short summer, the main valleys are well watered by the melting glacial ice and support a surprisingly rich vegetation. The mountains fall southward to Lake Hazen, which occupies a broad and deep valley and is 45 miles long and up to 7 miles wide; the lake is remarkable in being the largest body of fresh water so far north in the world. On the south the lake is bounded by an extensive rolling plateau, a continuation of the plateau which extends from the east end of the lake to the weather station Alert. Two main factors recommended the Lake Hazen area as suitable for the Canadian International Geophysical Year expedition. The accounts of the early explorers indicated an unusual climate and environment which seemed worth investigating. Secondly, ice cap and glaciers are readily accessible from the lake, so that an IGY glaciological program could be pursued from a main base on the lake.

The area was known to the Eskimos of several centuries past, as the archaeological sites testify, but was unknown to explorers until 80 years ago. In 1861, the American Dr. I. I. Hayes, was the first to approach near the area when he pioneered the Smith Sound-Kennedy Channel route, and his sledge parties came in sight of Lady Franklin Bay. In 1871, C. F. Hall, the next on the scene, explored Robeson Channel to the north of Lady Franklin Bay, and died in the part of northwest Greenland which he discovered and which was named for him. In 1875-76, the *Discovery*, one of the ships of the British Arctic expedition under Nares, wintered at Discovery Harbour. The sledge parties of this ship missed discovering Lake Hazen by about 30 miles; they were mainly intent on exploring the coast line and fiords. It was left for Greely,† the leader of the United States Lady Franklin Bay Expedition in the International Polar Year of 1882-83, to be the discoverer of Lake Hazen, and to be rewarded with one of the most spectacular sights to have been beheld by an Arctic explorer for the first time. His description of what he saw as he and his men reached

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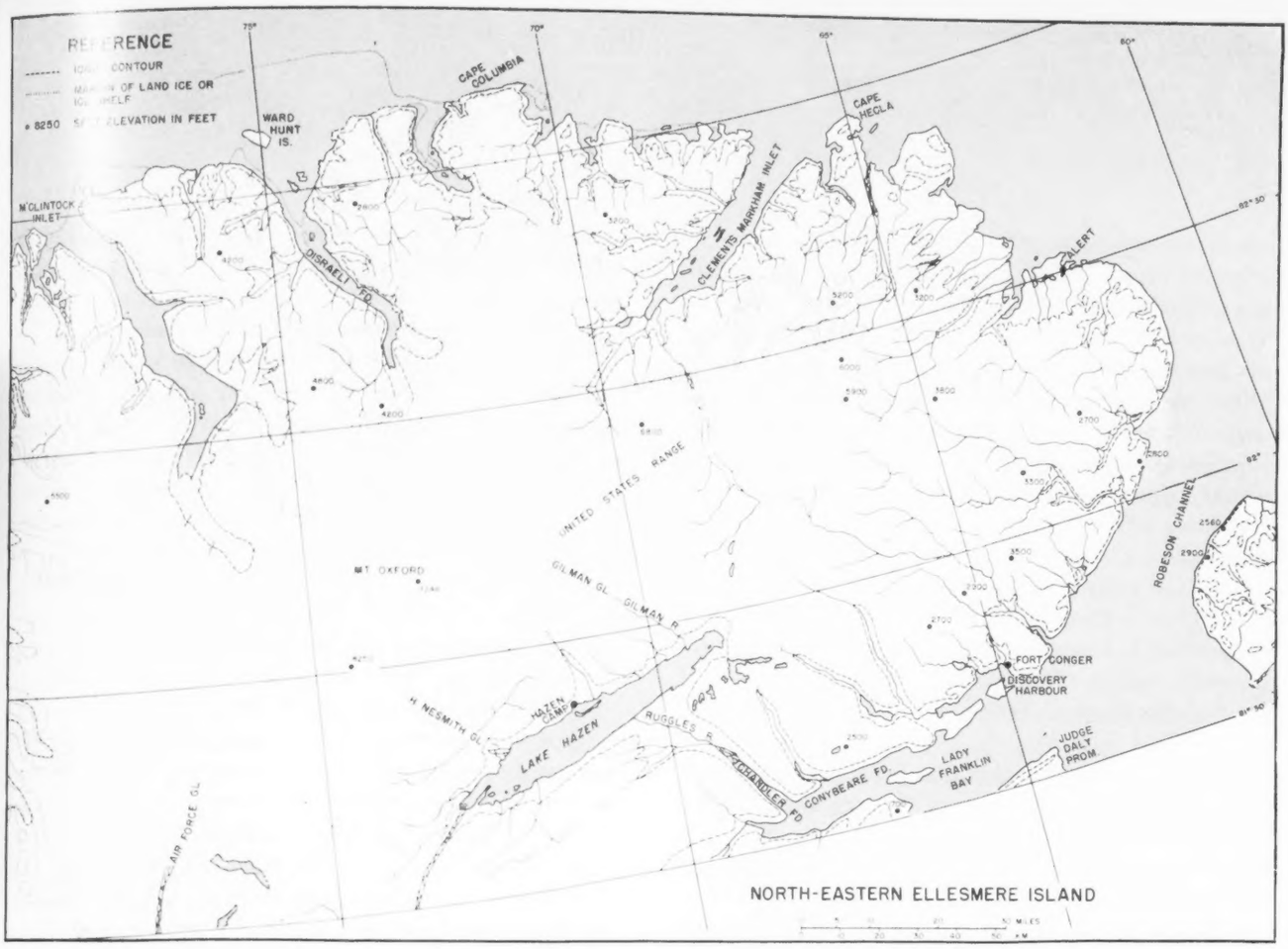
†See "The Greely Ordeal," *Beaver* Summer 1961.



the head of Ruggles River from Chandler Fiord on 30 April 1882 is worth quoting: ". . . a sharp turn brought in sight a scene which we shall all remember to our dying day. Before us was an immense ice-bound lake . . . To the northward some eight or ten miles . . . a partly snow-clad range of high hills . . . appeared, behind and above which the hog-back, snow-clad summits of the United States mountains rose with their stern, unchanging splendour." Greely and his men were also greatly surprised to find that the Ruggles River was open for several hundred yards below a broad pool where it left the lake, a feature which has been observed in subsequent years. At the outlet of Ruggles River on the east side, the site of what was almost certainly one of Greely's camps was found during the IGY. Rocks marked the perimeter of the tent on a small terrace ten feet above and a few yards from the shore, and pieces of blue serge cloth and of wood from boxes lay nearby. On the north side of the lake, two miles from the terminus of Henrietta Nesmith Glacier, a small cairn described by Greely in his book contained his record in an old cocoa tin. Unfortunately the record had been reduced to pulp by moisture.

Peary and members of his parties visited Lake Hazen during the course of three expeditions to northern Ellesmere Island between 1900 and 1909, for "the musk-ox preserves of the Lake Hazen region" were an important factor towards the success of his journeys; they were the main source of food for his dogs which numbered more than 150 on his last expedition. A stone house at the east end of the lake, found in 1958, marked the winter camp of Peary's Eskimos in 1905-6, and groups of musk-ox skulls in a number of places near the lake probably marked kills by these hunters.

The next visitor to Lake Hazen was Ekblaw of the MacMillan Crocker Land Expedition, who in 1915 returned with two Eskimos from the west coast of Ellesmere Island via Greely Fiord and the south shore of Lake Hazen. Then in 1935, Stallworthy (on loan from the RCMP), Moore, and two Eskimos, comprising the northern sledge party of the Oxford University Ellesmere Land Expedition, reached Lake Hazen on a long journey by dog team from their base at Etah in north Greenland. While Stallworthy and one Eskimo maintained a fishing camp on Lake Hazen, Moore and the other Eskimo reached the interior ice cap via Gilman Glacier, and from the top of Mount Oxford, which they named for the expedition, sighted another range of mountains to the north which they called the British Empire Range. Moore estimated the height of Mount Oxford as 9,000 feet, but survey in 1957-8 gave a height of only 7,250 feet.

Such is the bare record of the explorers of the Lake Hazen region before 1957. The members of the IGY

expedition who came after were mindful of the rigours besetting those who had "dared the unknown and led the way." Now it is possible to reach Lake Hazen in two days by air and to land in the comparative warmth of spring, but previous visitors voyaged north by sea, and wintered before their main work could begin; and some only reached the area at all after long and arduous sledge journeys. Today living and travel in the area present no particular problems, and the success or otherwise of an expedition is judged only by the field notebooks of its members.

The IGY expedition (Operation "Hazen") was organized by the Defence Research Board's Geophysics Section, which is headed by Mr. T. A. Harwood. Twenty scientists took part in the expedition including officers of the Fisheries Research Board, the Geological Survey and Geographical Branch of the Department of Mines and Technical Surveys, the Human History and Natural History Branches of the National Museum, and the Wildlife Service, and members of McGill University, the Universities of Toronto and Alberta, and Michigan State University.

The members of the expedition were, summers 1957, 1958: Dr. G. Hattersley-Smith, Leader, glaciologist; Prof. R. E. Deane, Deputy Leader, geologist; L/Cdr. J. P. Croal, RCN, logistics co-ordinator; K. C. Arnold, surveyor; Dr. R. L. Christie, geologist; Prof. F. S. Grant, geophysicist; J. R. Lotz, meteorologist; H. Sandstrom, assistant geophysicist. Summer 1957 only: J. D. Filo, assistant geophysicist. Winter 1957-58, Summer 1958: C. R. Harington, in charge of winter party, geographer; C. I. Jackson, meteorologist; J. M. Powell, geographer; D. I. Smith, geographer. Summer 1958 only: Dr. M. Brochu, geographer; Prof. M. S. Maxwell, archaeologist; Dr. I. A. McLaren, aquatic biologist; R. B. Sagar, assistant glaciologist; Prof. J. H. Soper, botanist; Dr. J. S. Tener, mammalogist; B. P. Walker, assistant geologist; Dr. J. R. Weber, geophysicist.

The logistic problem of establishing and supplying a station at Lake Hazen was solved by spring airlifts by the Royal Canadian Air Force and by summer sealifts by United States Navy and Coastguard icebreakers. In 1957, the airlift involved ten landings on Lake Hazen in late April by C-119 ("Flying Boxcar") aircraft in transporting the party of eight men, two tractors, two dogteams, and thirty-five tons of stores, fuel and equipment from the staging point at Fort Churchill via Resolute and Thule Air Base. The first two landings were made on an unprepared airstrip in ten inches of loose snow. A bulldozer carried in on the first flight was used to prepare a 3,500-foot airstrip for subsequent landings. An airlift of similar proportion was carried out in 1958 to bring in the party of twenty men, with three dogteams and thirty tons of fuel and equipment. In addition, a C-130A ("Hercules") aircraft of the United States Air Force, equipped with skis, brought in nine tons of fuel at the end of March. In May 1957, Hazen Camp was established on the north shore of the lake, opposite the west end of Johns Island. The camp included two 16- by 24-foot shelters of insulated canvas stretched over a curved wooden frame.

The establishment in 1957 of a glaciological camp on Gilman Glacier at 3,400 feet was carried out by an airdrop from a "Flying Boxcar" and by three landings of a ski-wheel DC-3 ("Dakota") aircraft. The camp was reopened in 1958, when fourteen "Dakota" landings were made in connection with manning and restocking the camp and flying parties to outlying field stations. Scientific equipment used in 1957 had been stored on the glacier during the winter in three pyramid tents, and as expected these were found standing in excellent condition in the following spring.

The 1957 summer party was relieved in mid-August by the winter party who arrived at the head of Chandler Fiord in the icebreaker USCGC *Eastwind*. It was the first time a ship had penetrated this fiord system beyond

Establishing Hazen Camp in May 1957, after the air lift.

*In Septe*n Camp

the outer part of Lady Franklin Bay. A well-sheltered anchorage and good holding ground was found about a mile from the icefoot which marks the mouth of Ruggles River, and the transfer of the winter party, with fifteen tons of stores and fuel for the 1958 summer, and the evacuation of the summer party, with two dogteams, specimens, records and certain equipment, were effected in thirty-five flying hours. The main evacuation in mid-August 1958 was carried out by the icebreaker USS *Atka*. Five men who remained behind to complete scientific work were flown out in an RCAF "Canso" amphibian aircraft, which landed on the lake and was able to tie up near a gravel and sand beach below the camp. In early August 1958, Dr. Terris Moore of North Vassalboro, Maine, visited Lake Hazen in his Piper "Super-Cub" aircraft which he had flown solo from the United States. The aircraft was equipped with pontoons and could land both on water and on snow surfaces. He most kindly flew members of the expedition on a number of service and reconnaissance flights in the area.

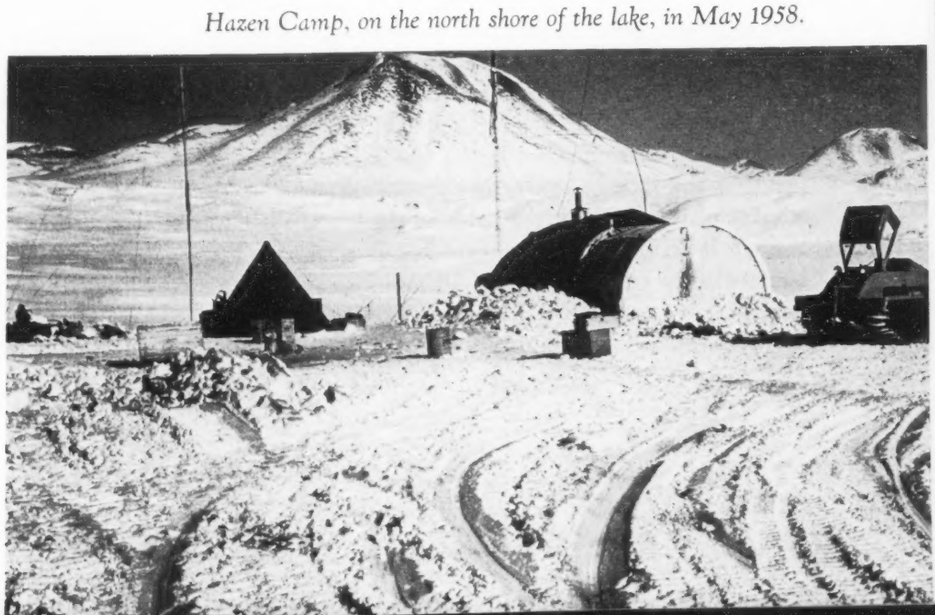
The wide-ranging scientific surveys and collecting work of the expedition were made possible by a variety of methods of ground travel according to season and terrain. Up to early July a light "Bombardier" snowmobile with an Army, 2-ton "Northland" sledge was used on the lake to lay food caches around the shore and to transport field parties. With the onset of the melt season the tractor was of limited use as it could not cross streams. Dogteams were successfully used away from the lake in the spring for access to the Conybeare Fiord area via the valley of the Ruggles River, where the river ice was unsuitable for tractor travel. Later, after the snow had melted, the dogs were used for packing. Each dog could carry up to about 20 lb. leaving the men with a fairly light load. Pack dogs were employed in this way for a geological traverse to Alert. On the ice cap and glaciers, dogteams and "Eliason" motor toboggans were used throughout the summer to haul loads up to 1,500 lb. on "Nansen" sledges. Only dogteams could be used on the bare ice in the lower reaches of the glaciers in late summer, and the dogs also came into their own in the rugged valleys which lead to the glaciers.

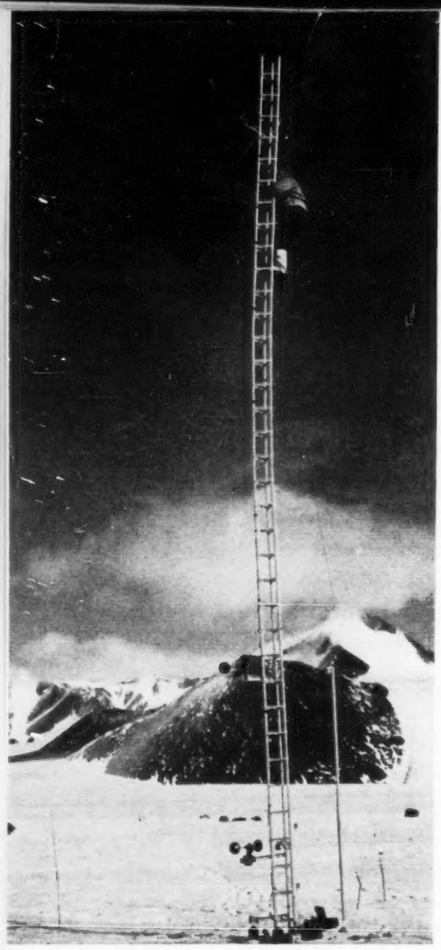
During the 1957 summer, only two members of the party of eight were based on the lake; the remaining six worked from the Gilman Glacier camp. In the 1958 summer, thirteen members of the party of nineteen, including the four men who wintered, were based on the lake; the remaining six were based on the glacier.

The members of the expedition with the longest time at Lake Hazen were the four men of the winter party, who remained there from 18 August 1957 until 8 August 1958. Although Hazen Camp was somewhat austerely equipped compared with some of the lavishly equipped IGY stations, they were a well-found party. The general absence of wind and drifting snow—there was only one storm during the winter—made Hazen Camp a not altogether unpleasant place to pass the arctic night. But the main factors which enabled the men to spend a happy and successful winter were undoubtedly mutual consideration, a sense of humour and plenty to do. Their year-long record of synoptic meteorological observations was the first of its kind from an inland station north of the Canadian Arctic mainland; all previous expeditions had wintered near the coast, and the six weather stations in the Arctic Islands are all situated near the coast. The mean temperature at Hazen Camp for the year was −6° F. December was the coldest month with a mean temperature of −47.7° F.; a minimum temperature for the winter of −68.5° F. occurred in January. The Lake Hazen trough proved to be a gigantic frost hollow with an intense surface inversion, with winter temperatures at the lake commonly 25° F. lower than at Alert, ninety miles to the north-east. Cloud cover was very rarely below 1,000 feet, except in the month of September, and the 3,000-foot hills north of the camp were usually free of cloud. In September 1957, the lake remained open for

*n Septe*n Camp clear of snow.

Hazen Camp, on the north shore of the lake, in May 1958.





The meteorological mast on Gilman Glacier.

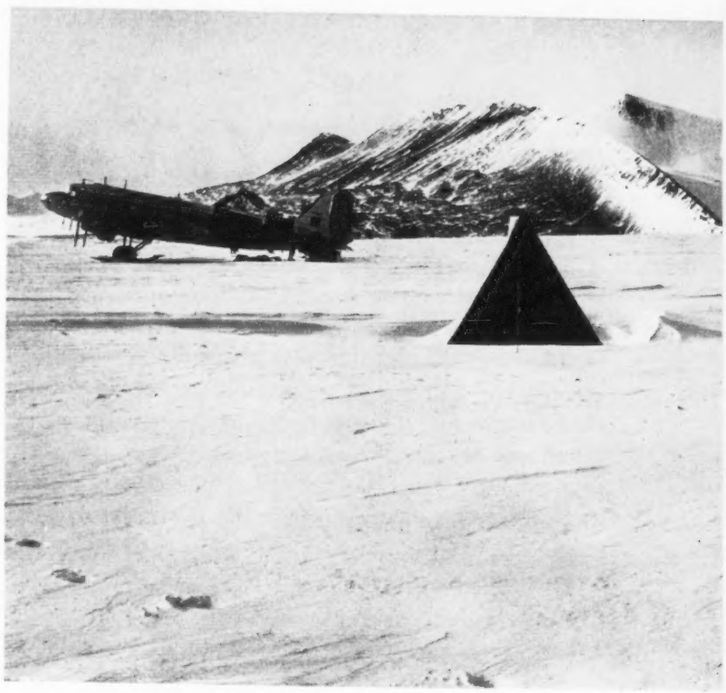
Dog-sledding on the ice cap at 6,000 feet in June 1958.

three weeks after the air temperature fell below freezing on the third of the month. This period was characterized by a local climate with an air temperature of about 20° F. and with a persistent layer of low stratus or stratocumulus cloud. After the lake froze, the temperature fell very rapidly. In winter, although temperatures were low, the prevailing calms or very light winds ensured a much less severe wind-chill at Hazen Camp than at Alert.

At the camp on Gilman Glacier a detailed glaciological program was carried on during the summer months of 1957 and 1958 to complement the glaciological studies. The highest temperature recorded was 46.5° F. in late June 1957, and the lowest −9° F. in early May 1958. Until mid-June long periods of sunshine were the rule. The temperature rose sharply in the second week of June, and by the middle of the month the melt was in progress. From then until the end of July the days were generally cloudy, and light falls of snow, rarely rain, were not uncommon. In 1957, these conditions continued into the middle of August when the camp was evacuated, but in 1958 early August was characterized by fine, sunny days. During the two summers the sun was shining for two-thirds of the time in 1957, and half in 1958. The larger amount of ice which melted reflected the warmer conditions in 1957. The prevailing wind was down the glacier, but the wind seldom exceeded 10 mph, except in two blizzards, in early May 1957 and in early July 1958, when the wind reached 40 mph.

Glaciers are good indicators of climatic fluctuations; their behaviour is particularly apt to reflect changes in precipitation and changes in summer temperature. One method of determining whether a glacier is currently undergoing a net loss or gain in mass is to compare the total amount of snow which remains on the upper reaches of a glacier at the end of the summer with the amount of ice which melts and drains away at the lower levels. On Gilman Glacier the accumulation of snow for the year was sampled in pits and the ice loss in the summer was measured at stakes; the areas of the accumulation and ablation (or melt) zones were computed from a map. In deep pits on the upper part of the ice cap it was possible to identify the annual layers of snow and measure their water equivalent. In this way the average accumulation over the last 20 years was found to be only about 5 inches of water. Although the melt season at the lower levels was of less than two months duration, it was more than sufficient to balance the accumulation. A simple though approximate calculation for the year 1957-8 showed that the amount of water which drained off the glacier was about 60 per cent greater than that which accumulated from the snowfall at the higher levels. The net loss is believed to have been even greater in 1956-7.

A comprehensive program of survey, seismic soundings, and gravity measurements was undertaken on Gilman Glacier and the adjoining ice cap, from which deductions could be made on the thickness of the ice.



Gilman Glacier camp, 1958, showing tent pitched the previous summer.

On the glacier, the ice thickness varied from 1,250 feet, three miles from the terminus, to 2,500 feet, twelve miles from the terminus. On the ice cap the ice varied in thickness up to 2,600 feet. Another way of determining whether a glacier is gaining or losing in mass is to measure the yearly rate of flow of ice through a cross-section of known dimensions; the amount of ice discharged is then compared with the amount of ice which melted down-glacier from this section during the summer. Survey of movement stakes indicated a maximum surface velocity of Gilman Glacier of about 80 feet a year, and calculations of the rate of discharge through a cross-section indicated that there was a net loss of ice on Gilman Glacier in 1957-8, and confirmed the conclusion from the accumulation and ablation measurements.

The survey program also involved the running of a level traverse from Chandler Fiord, southeast of Lake Hazen, to Clements Markham Inlet, a total distance of 110 miles. A gravity survey was carried out along this line in order to provide information on the structure of the United States Range. In addition five new absolute gravity stations were established in the area, including one on Ward Hunt Island, where a ski-landing was made in the "Dakota."

The meteorological, glaciological, and geophysical work was necessarily the main objective of the IGY expedition. There is only space in this account to summarize briefly the equally important work carried out in geology, biology and archaeology. The geological reconnaissance covered the Lake Hazen-Conybeare Fiord area in 1957, and was extended in 1958 southeastward to Judge Daly Promontory, eastward to Fort Conger, northeastward across the plateau to Alert, and northward across the ice cap to Clements Markham Inlet. Detailed surveys of Pleistocene geology and geomorphology were made in the vicinity of the lake, and studies of temperature, depth, sedimentation and bottom cores were made over a wide area in the lake itself. Echo-sounding traverses by boat during the late summer covered much of the central section of the lake, where depths up to 860 feet were recorded, indicating that the lake extends more than 300 feet below sea level. The aquatic life of the lake was studied, with special reference to the feeding habits and life cycle of the arctic char, which abound there; they run up to about 33 inches in length and 8 lb. in weight. The flowering plants found in the vicinity of Lake Hazen numbered 114 species and two full collections were made. A study was also made of the vegetation of certain nunataks at an elevation of 3,000 to 4,000 feet where some thirty species of flowering plants are represented. A reconnaissance of the wildlife of the area was made, and detailed work was carried out on the musk-ox and its life history. Peary's caribou, arctic wolf, fox and hare, weasel, and lemming were seen, and eighteen species of birds were recorded. Measurements were made on some 240 old musk-ox skulls, and specimens of mammals and birds were collected for the National Museum. Archaeological sites on Chandler Fiord, Conybeare Bay, at the east end of Lake Hazen, at the mouth of Gilman River, and at the head of Ruggles River were excavated. The latter site had been partially excavated by Greely during his summer journey from Fort Conger in 1882. The sites range in age from possibly as early as the 10th or 11th century to the time of Peary's Eskimos. A number of sites were recorded, but not excavated, in the foothills up to 15 miles north of Lake Hazen. A large number of artifacts were collected for the National Museum.

Careful planning and close liaison with RCAF, USN and USCG ensured that the logistic operations were conducted smoothly. The various scientists showed a remarkable ability to work together in their different fields to mutual advantage. These were the factors which made for a successful expedition. The expedition was greatly indebted to RCAF, USN and USCG for logistic support, and to the Canadian Army for a variety of items of heavy equipment, clothing and food stores, and for the services of two experienced technicians to service tractors and radio equipment at the beginning of each summer. Since the end of the IGY, the Defence Research Board has used Hazen Camp for further scientific investigations on a reduced scale. ◆

SHANTY TALES

BY B. V. BEDORE

SOME years ago, in the little towns along the Ottawa valley, you would find the old shantymen. Once loggers or trappers or rivermen, they were existing on pensions that they spent mostly on board and tobacco. Of an evening they would gather in their creaky rocking chairs on the porch or in a purple haze of tobacco smoke round the stove. Jimmy and Barney were two such; comfortably relaxed, in their heavy knitted cardigans or mackinaws and homespun trousers, felt boots or moccasins on their feet, crooked pipes going, their eyes would twinkle as someone started a tale of the old days.

Before Jimmy warmed up to his story telling he would snatch a long straw off the broom in the corner and run it through his pipe, all the time sort of blowing a tune through his lips, then open the front door of the old square box stove and throw the black, nicotine-coated straw like a dart into the heart of the blaze.

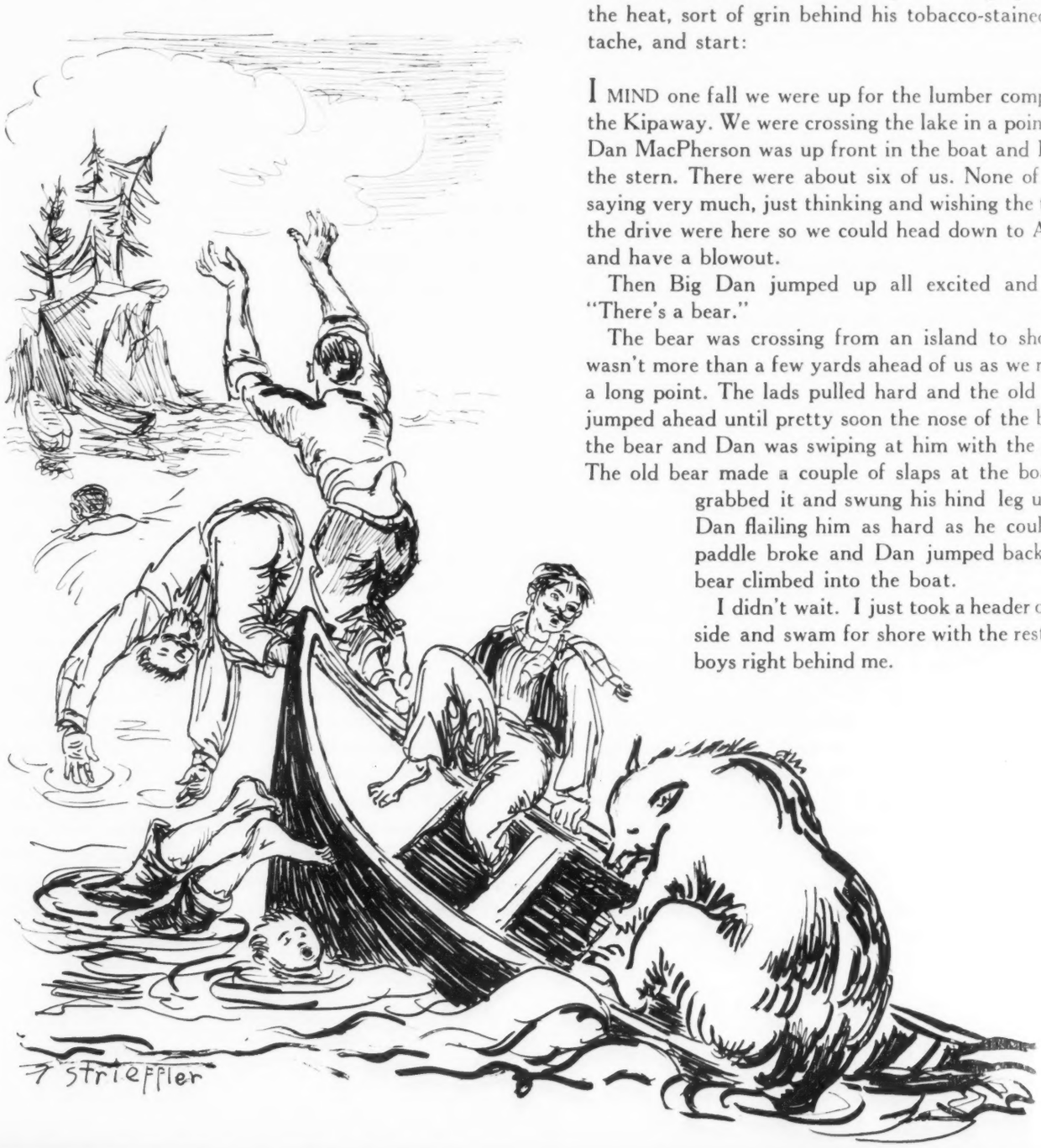
When he had the smelly old pipe stuffed he would puff hard, drawing in the heavy flame of one of the big sulphur matches that he took in handfuls from the ten cent box he kept in his room, then he would flip the match on the damper and lean back to absorb the heat of the fire. He would lean down and rub his legs as though pressing in the heat, sort of grin behind his tobacco-stained moustache, and start:

I MIND one fall we were up for the lumber company on the Kipaway. We were crossing the lake in a pointer. Big Dan MacPherson was up front in the boat and I was in the stern. There were about six of us. None of us was saying very much, just thinking and wishing the time for the drive were here so we could head down to Arnprior and have a blowout.

Then Big Dan jumped up all excited and yelled, "There's a bear."

The bear was crossing from an island to shore and wasn't more than a few yards ahead of us as we rounded a long point. The lads pulled hard and the old pointer jumped ahead until pretty soon the nose of the boat hit the bear and Dan was swiping at him with the paddle. The old bear made a couple of slaps at the boat then grabbed it and swung his hind leg up, with Dan flailing him as hard as he could. The paddle broke and Dan jumped back as the bear climbed into the boat.

I didn't wait. I just took a header over the side and swam for shore with the rest of the boys right behind me.



When we climbed out on shore and sort of got our bearings, old Pete LaBrush cursed Dan "for all de stupid Scotchmen dat ever blow de bagpipe." Black Paddy O'Brien dumped the water out of his pipe and swore to himself. Big Dan didn't say anything. He started off down the shore in a dead run and about twenty minutes later he appeared around the point in a skiff he had borrowed at the depot. He called to me and Johnny Burke and asked us if we wanted to go with him to get the pointer.

By that time we were wrung out and ready for a little hellery so we jumped in the skiff and went with him. He had a rifle and was all set to get the bear and bring the boat back.

Well it wasn't much of a trick to shoot the bear, dump him out and row the boat to shore but old Pete LaBrush cursed Big Ben all during that spring because he had made him jump into the river. Pete had only one suit of underwear and it dried on him so hard he got the itch because he had to suffer till he got home to Arnprior to get a change.

Barney cleared his throat. It was his turn.

THEY USED to tell a story about the time a gang of men were crossing a bay on Timagami when they came across a moose. One of the young lads, who was a clerk in the camps, tossed a rope over the moose's antlers and tied it to the nose of the boat.

The moose was big and scared. When the rope touched his head he lit out for shore dragging the boat and men after him. He was still swimming when he hit the rocks after covering half an acre of sand beach and he ploughed in between the trunks of two big pine trees where he stuck.

The pointer with fourteen men in it was coming behind so fast it hit the moose and split him fair in two. All they had to do was skin him and quarter him and take the meat to camp.

Jimmy didn't bat an eyelid but came back with one of his own.

I MIND one time we were up on the Petawaway and some of the lads were doing a bit of trapping on the side. We were just getting up one morning about four o'clock and old Bateese Latour from Braeside came staggering into camp. He was bushed and almost stiff with cold. We got him thawed out and he told us what happened.

The night before he had gone out to check some traps and got lost. He was trying to backtrack himself to camp when all of a sudden he heard something snapping and

snarling at his heels. He looked over his shoulder and there were three of the biggest wolves he ever saw.

He ran for a spruce tree about two hundred yards away, dropped the gun and jumped twelve feet to the first limb. The wolves stopped at the foot of the tree to hold a consultation. Finally one stood guard on him while the other two disappeared into the bush.

Bateese was getting cold so he tried to figure out how he could scare the wolf away so he could get back to camp. He set his hat ablaze and dropped it, but the crafty old wolf on guard at the foot of the tree didn't scare. He caught the hat in his teeth before it hit the ground and ran about fifty yards to a brush pile which he set on fire to give him a light to see better.

Old Bateese thought the wolf was gone so he started down the tree. His feet no sooner touched the ground than he saw the wolf's two pals coming so he shinned up the tree again as fast as he could. One of the wolves had a beaver in his mouth. He dropped the beaver at the bottom of the tree and put it to work cutting down the tree.

Well sir, Old Bateese sat there shivering and shaking and thinking about all the wolf bait he was going to make. The spruce started to fall and he grabbed and snatched at everything he could reach to try to stay off the ground. Suddenly he found he was travelling very fast.

He had fallen smack onto a big bull moose and he grabbed its antlers thinking they were limbs of a tree. He hung onto that moose for two hours when finally he saw a light and jumped off.

That old moose had brought him right back to camp and we found him just as we were getting up. ◆

Mr. Bedore lives in the Ottawa valley-where as a boy he knew many old-time shantymen.

BY E. O. HOHN

LEMMINGS, HARES, AND HORMONES

Dr. Hohn, associate professor of physiology at the University of Alberta, has been engaged on research on hormones for sixteen years. He has spent summers in the Western Arctic, on medical work, and observing and collecting birds and mammals.

ANIMAL cycles are characteristic phenomena of the subarctic and arctic. They involve regularly spaced periods of great abundance or peaks of a particular animal, followed by sudden decreases or crashes which result in a temporary scarcity of the very animal which only a season earlier seemed to be "all over the place." The snowshoe or varying hare, commonly known by its colloquial name as the bush rabbit, shows such a cycle in a very striking manner. Roughly every ten years, more accurately every 9.6 years, these hares reach peak numbers. Peak population densities were estimated by that competent naturalist Thompson Seton to reach as high as 6,000 per square mile. His estimate may seem high but it is supported by the fact that in the winter of 1942, two boys took 1,700 hares from a half section (3,400 per square mile) near Rocky Mountain House, Alberta. Since they did not exterminate the rabbits on their father's land, a population of the order suggested by Thompson Seton is indicated by this record. While hares are at a peak their tracks are seen everywhere in the winter woods and saplings are barked up to the height that hares can reach, over large areas. Yet a year or two after the peak one will see hardly a hare in the very areas in which they were previously so abundant.

Another aspect of the cycle is that though peaks may be a year or two out of step in different parts of the country, they are by and large simultaneous across the whole continent.

Few people keep statistics on hare numbers but we have a predator the lynx which lives almost exclusively on them and lynx numbers fluctuate in parallel with those of their prey. The lynx fur returns of the Northern Department of the Hudson's Bay Company were analyzed some years ago by two British ecologists and one of their graphs is reproduced here. The regular ten year spacing of the peaks is self evident, as is the great contrast between the maximum of 63,000 in 1885, for example, and a few thousand only a few years on either side of this peak.

There is little doubt that the hare cycle causes the lynx cycle rather than the other way about. The island of Anticosti in the Gulf of the St. Lawrence, originally had neither snowshoe hares nor lynx. Hares were introduced there successfully and they now show the usual ten year cycle although there are still no lynx on the island to prey on them. On the other hand it is likely that after a hare crash many lynx become so undernourished that they become unfit to breed.

There is also good evidence that our various species of native grouse, the birds often loosely called "bush

Lynx, in captivity. E. O. Hohn

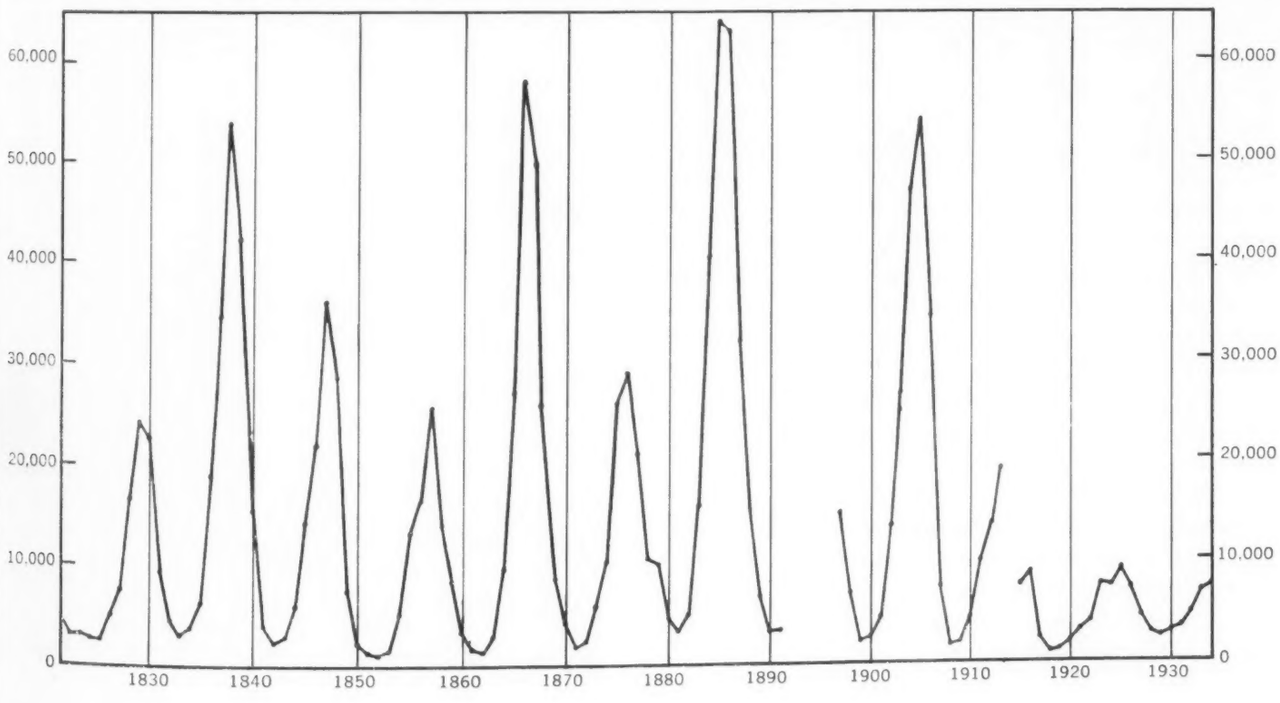
partridge"—the ruffed grouse and "prairie chicken," properly the sharp tailed grouse, show a ten year cycle. Moreover good grouse years coincide with the periods of hare abundance. It is possible that the changes in grouse numbers are also a consequence of the hare cycle. When hares are abundant a variety of predators apart from the lynx, namely foxes and coyotes, goshawks and horned owls, are likely to live largely on them so that they leave the grouse in peace. When a hare crash has taken place they are forced to turn to alternative prey and the native grouse offer the most available alternative for a sizeable meal. As the hare population gradually builds up again, the death rate from predation among grouse will once more decrease allowing the grouse population to recover. It would therefore appear that the ten year hare cycle causes a secondary cycle in the lynx and that changing numbers of this and other hare predators in turn bring about what might be called a tertiary cycle in grouse numbers.

The following observation is in support of this explanation of grouse cycles. The willow ptarmigan, a member of the grouse family, in the lower St. Lawrence area is reported to show a ten year cycle. This is in an area where snowshoe hares also occur. Further north beyond the range of hares but where there are lemmings which show a four year cycle, the willow ptarmigan also shows a four year cycle. In these two areas, therefore, the ptarmigan cycle parallels in each case that of a common mammal which itself shows the most well developed cycle in the area in question. Nevertheless it is possible that grouse and hare cycles are independent of one another, each being due to the reaction to high population density.

The lemming cycle has been known for much longer than that of the American snowshoe hare. It is moreover accompanied by very striking migrations when lemmings are found in the most unlikely places far from their normal habitats. These small rodents are at least superficially reminiscent of golden hamsters though they differ from hamsters in their colour.

There are two North American species of lemmings. The brown lemming, coloured dull brown all over, is found throughout Alaska, the Northwest Territories with the exception of many of the arctic islands, northern Quebec and Labrador and the northern portions of British Columbia, Alberta and Saskatchewan. The Greenland or collared lemming, also brown with a faint suggestion of a greyish collar and a dark stripe down the back, is more northern in distribution. It is found in Greenland, all the arctic islands, the tundra areas of Alaska and the mainland portion of the territories, including the very northeast corner of Manitoba along Hudson's Bay and in Northern Quebec and Labrador. The collared lemming

Lynx fur returns of the Northern Department, Hudson's Bay Company, 1821-1913, and of equivalent area 1915-34. Reproduced from C. Elton and M. Nicholson 'The Ten-Year Cycle in Number of Lynx in Canada,' Journal of Animal Ecology, 1942.



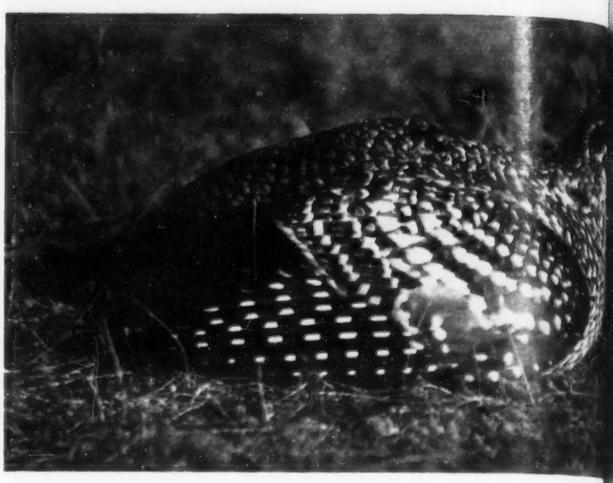
is unique among rodents in changing to a white winter coat.

The most famous lemming plagues or peaks, however, involve the Scandinavian lemming which resembles our brown lemming. This little animal normally lives on the arctic tundras as well as somewhat farther south along the treeless high ground of the mountainous spine of the Scandinavian peninsula. Every four years lemmings become astonishingly common on their home grounds. Hordes of them invade the settled lowlands of Norway and Sweden where they wander about often causing considerable damage to crops and at times constituting a real plague. Their appearance far away from their normal habitat can be so sudden that in the old days Norwegian peasants used to believe the lemmings must have dropped from the clouds. Lemmings during a peak year not only overrun the countryside but also invade the cities; wild lemmings were once seen scurrying up the granite steps of the University Building in Oslo. Wandering lemmings take to water without hesitation and swim across a water barrier if it is narrow or end up by drowning if it is too wide, for they often launch themselves into the open sea. An idea of the numbers of lemmings in a single swarm can be formed from the record of a steamer which was travelling along Trondheim Fiord at full speed in 1867 and took fifteen minutes to pass through a regular floating carpet of lemmings which were swimming across the Fiord.

Our own lemmings also show a four year cycle but as they live much farther from civilized areas than those of Scandinavia, their fluctuations are not so widely known. They also get themselves lost during their wanderings in peak years and frozen lemmings have been found out on the sea ice thirty miles away from the nearest land.

Lemming numbers have a profound influence on animal life in the tundra. When lemmings are numerous birds and mammals that prey on them, particularly snowy owls, short eared owls and jaegers, are also common and there is a definite increase in the number of weasels and arctic foxes. The catch of arctic foxes is much above average once every four years in most areas, the bumper year being the year when lemmings are most abundant. It is also evident that these predators do not merely congregate in areas where lemmings are abundant but that their rate of reproduction is increased during good lemming years. Snowy owls in fact appear often not to nest at all in years of lemming scarcity and it is likely that foxes rear larger litters in good as compared to poor lemming years.

At first sight the apparent stimulating effect of abundance of prey on the sex glands of snowy owls and arctic



Sharp-tailed grouse or prairie chicken. R. Evans

foxes may seem rather mysterious. However there is now evidence to show that special areas of the midbrain control the secretion of the pituitary gland. This latter gland has long been known to secrete gonad or sex gland stimulating hormones which can cause an increase in the number of egg cells produced by female animals. It is therefore quite feasible that the frequent perception of prey by the eyes causes stimulation of the midbrain areas referred to, which in turn, through the pituitary, could cause stimulation of the sex glands.

The fundamental question of what causes hare or lemming numbers to increase to a certain point and then suddenly to go down in a "crash"—in short, what is the cause of animal cycles—has been under investigation for some time. Recent work by American and British biologists provides a theory which is to my mind quite con-

Collared lemmings on the move. Walt Disney Productions

vincing. The Canadian endocrinologist Selye had shown some time ago that stress, due for example, to exposure to cold, extreme heat, enforced muscular exercise, causes an enlargement of the adrenal gland and a simultaneous decreased activity of the sex glands. Both changes are due to changed secretion of the pituitary gland; there is an increased secretion of A.C.T.H., a hormone which stimulates the cortex of the adrenal gland (as indicated by the full name of A.C.T.H. adrenocorticotrophic hormone) and a decreased secretion of the gonad stimulating hormones already referred to. The American and British biologists mentioned above have shown that in rodents mere overcrowding causes stress with its typical effects on the adrenal and on the sex glands.

As typical of many experiments done on rats, various species of mice and voles, we may summarize an experiment carried out on deer mice. "Uncrowded" mice were kept in pairs each pair in a cage to itself. "Crowded" mice were kept several pairs to a cage, in cages of the same size as those given to the uncrowded mice. The "crowded" mice were given more food and drink than they could consume as well as more nesting material than they actually used. After a few weeks the crowded mice had swollen adrenal glands and shrunken, rather inactive sex glands.

Overcrowding thus stimulated the adrenal cortex and decreased the action of the sex glands. It is well known that the hormones secreted by the adrenal cortex reduce inflammation (this is in fact the basis of their use in medical practice). Since inflammation is a defence reaction of the body, an animal with overactive adrenal glands is rather at the mercy of bacteria and viruses and likely to succumb to any infection. If stress continues indefinitely the adrenal gland becomes exhausted and an animal's resistance to any unfavourable situation, cold, heat, food shortage and not just to infection is decreased and it takes very little to cause death.

A brown lemming. The range of this species does not extend so far north as that of the collared lemming. *Sask. Govt. photo*

This state of affairs agrees well with what has been observed during hare crashes. The hares do not die off from any one epidemic disease but they do show evidence of a disorder of carbohydrate metabolism of the kind which can be caused experimentally by lack of adrenal cortical hormones and which could be due to exhaustion of their adrenal glands after a long period of stress from overcrowding.

The other aspect of the stress response is reduced sex gland activity. This means males will make less sperm, females will shed fewer egg cells and the mating urge will be decreased. Obviously fewer young will be conceived. It has also been shown that in stressed pregnant mice

A young varying hare in greyish-brown summer pelage. Leonard Lee Rue

the number of young which die in the uterus before birth is increased. Lastly, stressed pregnant mice produce less milk after delivery than do normal ones. The overall result of the stress response is thus a reduced birth rate, reduced survival of young due to insufficient maternal milk production and an increased death rate of adults with exhausted adrenals.

All these factors will reduce the animal population and fairly soon the survivors are not overcrowded any more. With the stress of overcrowding removed the hormone system once more recovers and reproduction also returns to normal. This makes a gradual build up of the population possible, provided there is no shortage of food, cover and breeding places. In a few or in several years, depending on the birth rate of the animal in question, the population once more builds up to levels that constitute crowding, followed by stress response and crash.

One may ask, in view of the explanation just outlined, why animal cycles should be most marked in the north and this can, I think, be adequately explained. The average arctic and subarctic winter is obviously hard for animals that do not hibernate. In addition there are catastrophes such as blizzards or late springs with delayed availability of food. Therefore non-migrant, non-hibernating northern animals must have an unusually high birth rate to survive in such an environment. If their birth rate is high they become liable to overcrowding whenever conditions have been no worse than average for several seasons.

Another factor is that in polar areas animal life, on land at least, is scarce both in number of individuals and the variety of species. In such an environment an animal's ecology, its relationship to its food and the animals that prey on it is fairly simple. On the tundra the lemming is the only abundant small vegetarian, it has no competitors. Further, the number of birds and animals that prey on it is strictly limited. In tropical and subtropical areas any small rodent is in competition with a host of other rats and mice and it is preyed on by a greater variety of birds and mammals as well as reptiles and possibly certain amphibians. Ecological interrelationships are therefore more complex in southern areas and seem to make for stability of animal populations. It seems that in the north, due to the absence of competition, the available predators though they do as we have seen increase in number, simply cannot curb the population increase of common little animals unless nature throws in some catastrophes. If the latter do not occur a hormone controlled population cycle becomes evident.

These considerations do not apply in the Antarctic simply because there are no land animals there.

Although the evidence for the biological theory of animal cycles presented above rests, as yet, on experiments on rodents other than lemmings and it has not yet been tested on snowshoe hares it is based on far more experimental evidence than any of the previous theories on this matter. Unlike these earlier theories it seems likely to stand the test of time.

NORTHERN BOOKS

INDIANS OF NORTH AMERICA

by Harold E. Driver

University of Chicago Press. University of Toronto Press. 1961. 668 pages, illus., maps. $10.95

Reviewed by Douglas Leechman

THE appearance of this authoritative and indispensable volume decisively puts the author in the front rank of American anthropologists. As a reference book, it will take the place of Wissler's *American Indian*, the third and last edition of which appeared in 1938, and was reprinted in 1950. Much research in American anthropology has been done since then, some of it synthesized as in the author's *Comparative Studies of North American Indians* which he wrote in co-authorship with William C. Massey, but much more published as separate papers in various scientific journals. Dr. Driver has digested this large mass of material and has represented it in a logical and systematic manner. There are twenty-six chapters, each with a number of sub-divisions, and few, if any, aspects of American Indian life are left untreated. Each topic is discussed with relation to specific culture areas, especially the Arctic, Northwest Coast, Plains, East, Oasis (Southwest), and Meso-America.

The inclusion of Mexico and Central America is logical and does much to round out the discussion of culture traits which do not stop short at modern political boundaries. The breadth of the subject has compelled the author to present his statements somewhat dogmatically, for the inclusion of all opposing views and hypotheses would necessitate a book many times as large as this one. Smaller details and exceptions to general rules have had to be ignored, but on the other hand the text has been delightfully enlivened by a number of picturesque and amusing sidelights, such as that on page 444, in which the women of a village terminated a girl's puberty confinement which they felt had been too long, by taking it in turn to sing puberty songs for her, and each asking the girl's father for a present of a sewing machine as a fee for this service. Father broke down!

Excellent, too, are the many quotations from original sources. It may be said that a text-book is known by its bibliography. This one is over twenty pages long and lists about five hundred titles. Each chapter terminates with a section headed 'Conclusions,' followed by a list of appropriate works in which further details may be found. The main body of the text is followed by thirty-seven distribution maps. Many of these show the occurrence of culture traits that I have not seen mapped before.

There are twenty-five photographic plates illustrating aboriginal art from the Arctic to a Mayan temple which are excellent. In stark contrast are the line drawings in the chapter on Housing and Architecture, which are so over-simplified as to be actually inaccurate and misleading. I find it difficult to understand why they were included at all. A large folding map in a back pocket shows the distribution of native tribes in North America, presumably as they were at the time of white contact, though this does not appear to be specifically stated.

It is impossible to have anything but praise for so complete and scholarly a book. As a college text, it can not be surpassed, yet it is so readable that the layman will find it difficult to put down. Opening it at random almost invariably lands one in the middle of some intriguing detail, such as a recipe for False Face Pudding. It is parched corn-meal and white man's sugar.

Dr. Driver was long on the faculty at the University of California in Berkeley, where he took his doctorate in 1936. He is now professor of anthropology at Indiana University.

Dr. Leechman, for many years chief anthropologist of the National Museum of Canada, is widely known for his studies of and publications about the Indians of this country.

WHITE BATTLEGROUND

The Conquest of the Arctic

by Edward F. Dolan, Jr.

Dodd, Mead & Company (Canada) Limited, Toronto, 1961. 303 pages, maps. $4.00.

Reviewed by L. H. Neatby

THIS ably written book is disfigured by blunders springing from ignorance, carelessness, and a morbid craving for sensation that is most alien to the uncomplaining heroes of the North. With a good general knowledge of his field the author commits the grossest errors of facts which he is too indolent to confirm or correct. Sir Philip Sidney could not have "raised" Richard Chancellor, who was drowned at sea when the future poet was two years old; Tschirikov, not Bering, made the first landfall on America from Kamchatka, and the captain of the *Erebus* was not Fitzharris, but Fitzjames. The story of the De Long expedition is distorted by a wanton sacrifice of the actual to the spectacular. To state that when the *Jeannette* was fatally nipped, her men "screamed and fought for exits" (the ship "was abandoned in a cool and orderly manner," *Report of the Court of Enquiry*) is not only injurious to the persons concerned, but an insult to the American Navy. This irresponsible "ad-libbing" produces inconsistencies that are simply silly and an affront to the reader's intelligence. In a crisis De Long's "shoulders were hunched, his feet spread wide, his hands clenched into fists." The scene is summed up by—"all this De Long saw with an outward professional calm." When the boats separated in a gale De Long brooded bitterly that Chipp and his men "would be long dead of starvation before Cape Barkin was raised," though on the previous page we have been told that land was not more than fifty miles away—a few hours sailing with a fair wind. In a sentimental passage Chief Engineer Melville is described as turning over the "decaying pages" of his late commander's journal—as if anything could decay on the North Siberian tundra between the last day of October and the 23rd of the ensuing March. The gross insincerity of this sob-stuff defeats the author's purpose, and converts what he intends to be tragedy into farce.

When Mr. Dolan curbs his imagination and submits to be guided by the record he does very well indeed. The episodes of Nansen, Amundsen, and Peary are related with accuracy and a vividness which, in these instances, is genuine and authentic. The little vignette on the personal appearance and character of Lieutenant De Long is both sympathetic and penetrating. The inexactitudes of which the author is guilty have been emphasized because they tend to discredit the good as well as the bad in his production; and, in a writer of his ability and reputation, set an evil example and are a menace to the integrity of popular historical writing. Alfred Lansing in his *Endurance* has shown what

can be achieved in this field by industry and a straightforward masculine veracity. If Mr. Dolan would take him as a model we are sure that he could command a larger share of his readers' confidence without impairing in the least his brilliant narrative style.

Dr. Neatby, professor of classics at Acadia University, has written extensively on arctic expeditions.

INDIAN TRADE GUNS

Compiled by T. M. Hamilton for The Missouri Archaeologist, Columbia, Missouri, 1960. 225 pages, illus. $3.00.

Reviewed by R. W. Sutton

MANY small museums, like ours in Manitoba, find themselves engaged in the field of archaeology without ready access to the advice of top-flight professionals. True, we can excavate sites, cataloguing, indexing and preserving with great care. If, however, the work is to have any real value a point is reached where only the specialist, with his own peculiar skills can unravel the story. This is especially the case where excavation reveals material indicating white contact, where, amongst the flints and potsherds one turns up items used in the Indian trade.

Now, trade material in the hands of an expert can provide a ready means of dating the occupancy of a site; and the remains of trade guns, because they often bear names and even dates, can be very useful. But these remains are only too often fragmentary or rusted almost beyond recognition. Here a consultation by several gun historians would be desirable, but prohibitive in terms of time and expense. Now, between two covers, the Missouri Archaeologist brings us the knowledge of the best men in the field of firearms research. Now we can consult a "panel of experts" on those puzzling bits of guns and accessories which so often turn up in the course of archaeological work.

T. M. Hamilton, himself a leader in this field, has successfully assembled the works of eight leading gun historians and drawn upon the advice of many others. Examples of the twenty-four major articles are "The Determination of Date and Origin of Archaeological Gun Parts," "The Manufacture of Gunflints," "The Recovery of Markings from Corroded Metal Surfaces," and "Investigating a Gun Mechanism Through X-Ray."

Styles of writing vary, but most are readable and all are chock-full of information. Gremlins scrambled the type in a few spots, getting in their best licks in a list of makers of Hudson's Bay trade guns. Here the name Barnett, best known of all these makers, appears three times—each time as "Barrett."

Eighty-four illustrations covering guns, locks and accessories add immeasurably to the success of this book. A thoroughly useful volume, long overdue but now, happily, available to all.

Mr. Sutton, Director of the Manitoba Museum, has long had a particular interest in old guns.

THE CASE FOR DOCTOR COOK

by Andrew A. Freeman

Coward-McCann, Inc., New York. 1961. 315 pages. $5.75.
Reviewed by J. Keith Fraser

THE claims of most explorers may be vindicated or rejected by their followers. In the case of Cook and Peary, both of whom claimed to have reached the North Pole, the fact that this geographic point was occupied by drifting ice prevented subsequent absolute proof. Either man could have faked his observations and either could have made reasonable guesses at the state of the ice and the absence of land. It was because of this lack of proof that the controversy resolved itself into an examination of the integrity of the claimants. "The character of the explorer," wrote Amundsen in 1927, "is always the best evidence of the truth of his claims of achievement." The student of polar exploration may draw his own conclusions, for numerous recent (within the last decade) texts, anthologies and books on general and polar exploration, written or compiled by disinterested non-Americans, show Peary as having reached the Pole and disregard Cook completely.

Most of the discussions, mainly written by Americans, dealing with the Peary-Cook controversy have been strongly pro-Peary or pro-Cook. It is unfortunate that the present volume is not one of the few exceptions. After providing an adequate background, Freeman attempts to vindicate Cook mainly on the basis of his personal charm and the unjustified, vitriolic attacks of his opponents. He omits thorough discussions of several points which, in the opinion of this reviewer, represent strong weaknesses in the case he makes for Dr. Cook.

When MacMillan showed Cook's Eskimo companions the pictures which Cook claimed were taken at the Pole, they pointed out that a pair of muskox skin boots in one of the pictures was made at Cape Sparbo the following winter. Freeman mentions this only to say Cook's opponents had stated that Cook claimed that no muskoxen were killed before the Pole journey. This distortion of MacMillan's statement may help to illustrate the unfair treatment of Cook but does not explain the misrepresentation of the picture, nor did Cook provide an explanation.

Freeman also ignores an article by Bradford Washburn published in Janu-

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ERRATUM

In the Autumn issue, page 48, the footnote states that Major Stephen Long was near the border only in 1817. Major S. H. Long, United States Topographical Engineers, was in fact in charge of an expedition making a general survey in 1823 in the course of which he covered the Red River country to Lake Winnipeg and erected a boundary marker at Pembina.

ary, 1958 (Doctor Cook and Mount McKinley, *Amer. Alpine Jour.*, vol. 11) and preceded by pictures in *Life* in August, 1956, which presented evidence that Cook faked his pictures of the top of Mount McKinley. Washburn's detailed, objective study examined Cook's descriptions of his alleged climb in 1906 and showed that his "summit" photograph was taken 15,000 feet below the true summit and nearly 20 miles distant.

The proven achievements of Cook were sufficiently outstanding to have gained him an honoured place in the annals of exploration. He was apparently a quiet, dignified man, an able medical practitioner and unassuming save for his two major claims of achievement. His professional competence in the fields of medicine and ethnology was endorsed by Amundsen and by Peary himself. He was undoubtedly unjustly treated and much of the responsibility for the acrimonious nature of the debate must be borne by the press, although it is difficult to single out more than one or two of the many participants who could claim exemplary behaviour.

The story is still fascinating and the psychological enigma of Dr. Cook is still puzzling. There remain apparently unanswerable questions. If Cook did not reach the Pole, the possibility of Peary finding land there would have immediately branded Cook as a liar or, at the least, an incompetent. This chance (if it were a chance) Cook accepted. If Cook did not reach the Pole, where was he for two months when he claimed he was sledging to the Pole and back? Did he see or visit Meighen Island, and if not, whence came the information concerning an island in the position of Meighen Island, undiscovered until 1916 and its sighting consistently denied by Cook?

The Case for Doctor Cook, though it adds no new evidence and is incomplete, is good reading. It is weakened by the failure to mention the Mount McKinley article. Freeman does not acknowledge Stefansson's almost forensic discussion *The Problem of Meighen Island*, privately published in 1939, and here he might have strengthened Cook's case by reference to recently published Canadian maps. He has also neglected the reference by Moira Dunbar (*Arctic*, July 1952) concerning Cook's description of what was probably an ice island. Cook appears to have been exposed on the mountain claim; the polar case stands as it has for half a century: neither "guilty" nor "not guilty," but "not proven." One may add, however, that Peary's claim, on actual evidence, must be assigned the same verdict.

Mr. Fraser is in the Northern Canada Research Section of the Canadian government Geographical Branch.

ISLAND OF THE LOST

by Paul Fenimore Cooper

G. P. Putnam's Sons, New York, 1961. 256 pages, maps, $4.00.

Reviewed by L. A. Learmonth

HERE is yet another book about the Franklin Tragedy and all the doubt and mystery that once surrounded it and which takes us on through the years as one researcher follows another uncovering details which eventually make clear, in outline at least, the sad finale. But also, as stated in the Author's Note it dramatizes the scene of the tragedy, particularly King William Island or *Kikertak* as known to the various peoples of the area in which it is located. Although it tells nothing out of the usual (except maybe the Weesy Coppin hocus-pocus) about the tragedy itself there is a new and dramatic approach as the story opens with the birth of Kikertak followed by the arrival of the Tunrit and then the Eskimos and so on, and of course, as might be expected from an author descended from and bearing, in part, the magic name of Fenimore Cooper, it is wonderfully told and well worth the attention of the reading public everywhere, even of those who already know the subject down to the last detail.

But in so far as it affects the usual Eskimo way of life Kikertak is not really an island for ten months in every year and the legends drawn upon concerning its past are common to the peoples all round and far afield. Also the Netsilingmiut and the Illivilermiut were and are the principal users of the island and any of them by living on it might become Kikertarmiut in much the same sense that a native of Quebec or B.C. might become a Torontonian.

As for such history as may be behind the legends it will be discovered in the course of time, I believe, by archaeologists and others who may take the matter up, that it is far from being as simple as in Mr. Cooper's dramatic tale, as indicated by the variety of types of the very numerous house and other remains to be seen here and there all over the area which takes in Adelaide Peninsula, King William Island, the land east of Chantry Inlet, Boothia Isthmus, Boothia Peninsula, Somerset Island and Prince of Wales Island. For example there is the Creswell Bay type (of a whaling and sealing people mainly—Thule?) and the Malerualik type (of a caribou hunting, fishing and sealing people mainly—Dorset?) which overlap in many places, and still others which do not seem to be of either the Dorset or Thule culture. Then there are today's natives, of mixed human types, whose more recent ancestors used only skin tents in spring, summer and fall, and snow houses in winter.

As surmised on page 253 the Peter Bayne story was probably a hoax, but if not it could be that Bayne and his sailor companions, employed by Hall, being without sufficient knowledge of the Eskimo language could not distinguish between Eskimo tales relating to John and James Ross, Franklin, Rae and others. For instance Bayne identifies *Aglokna* as Crozier when that was the name given James Ross by the Boothians as identified (*Aggluggna*) in McClintock's narrative. Also it is clear that Hall for all his great desire to believe so much that might suit his dream could have put no credence whatever in Bayne's garbled tale.

There are a few items about Kikertak's more or less recent history which are ignored in the story, and a few which are not quite correct but which would not be considered important, I suppose, except perhaps by a few old time arctic missionaries, policemen and fur traders.

Finally I am one of those who would hope with the author that the Kikertarmiut on their "fabled island" might be left free to continue with their old, busy interesting, peaceful, well adapted and, in spite of occasional hardships, satisfying way of life which most times involved only harvesting and enjoying what nature had provided. But he forgot to mention that DEW Line stations and goodness knows what besides are already established in their country, and they have no more chance of escaping the consequences of the cold war nor that other insanity the nerve wracking, tax burdening, wasteful, self-seeking struggle called progress, than have we, seemingly. Whether it is worth while or not, or whether they want it or not, or whether or not it is suitable for the arctic lands they live in, our hectic way of life is already being thrust upon them.

Mr. Learmonth spent many years on King William Island in the course of a long career as an H B C fur trader in the Arctic.

BEYOND THE HIGH HILLS

A Book of Eskimo Poems.

Photographs by Guy Mary-Rousseliere.

The World Publishing Co., New York, 1961. 32 pages. $3.95.

READERS of *The Beaver* have from time to time enjoyed Father Rousselière's superb photographs of people and places in the Eastern Arctic. They will be pleased to see, between hard covers, these examples of his work.

The Eskimo is better known for his plastic and graphic arts than for his songs.

But the latter, sympathetically translated, give us poems of deep emotional content. For the most part they treat of everyday life, but some tend to the mystic, and some are extremely earthy. The selection in this book is of daily life and death, giving an insight into the Eskimo's feelings about hunting, about the delight of receiving guests, about heat and cold. It is unexpected to find in Dead Man's Song a denial of the presumed Eskimo placidity and acceptance of the tribulations of life. The stanzas "Glorious was life . . . but did [it] bring me joy? No! Ever was I so anxious . . ." have the ring of the harassed businessman on the road to tranquillizers and nervous breakdown.

Previously, with the exception of Carpenter's *Anerca* (1959), Eskimo poems or songs have appeared mainly as part of lengthy reports by explorers and anthropologists. The writings in this volume have been taken from two volumes of Rasmussen's Report of the Fifth Thule Expedition. Some of them will be familiar to readers of *The Beaver* having been reproduced in the Spring 1959 issue in conjunction with other pictures by Father Rousselière. It is good that wider recognition can now be given to an accomplishment formerly limited to oral transmission.

In this volume all the illustrations are in colour and one's only regret is that the printing does not give a more faithful rendering of the delicacy and effectiveness of the originals. It is, however, a pleasurable book.—*M.B.*

DOG SLED AND SCHOOL DESK

by Phyllis M. Taylor

Herbert Jenkins, London, 1960.
160 pages, illus. 18s.

Reviewed by Wanda Neill Tolboom

THIS rather pleasant little autobiography recounts the impressions of an English woman who journeyed directly from Liverpool, England, to Aklavik, N.W.T., to join the teaching staff of All Saints Residential School. The author has no particular points to make or "axes to grind." There is no outstanding character and not the vestige of a plot. For a northern tale, there is also a surprising lack of high adventure and hair-breadth escape. The reader is merely given a refreshing look at arctic life as sensibly viewed through the sharp eyes of an English school mistress.

Miss Taylor relates how, over a period of eight years, she became enamoured of Canada's northland through correspondence with a literate recluse who was her pen pal. Several pages are devoted to actual excerpts from the letters of this lonely man who operated a trap line on the northern shore of Athabasca Lake. The reader, too, is charmed by his descriptive prose. Shortly after her arrival at the school the author learns that her former pen pal is living near Aklavik and a meeting is arranged. Here, a fairy tale almost begun, ends abruptly. The bearded woodsman is voluble only on paper and without the letters which bound them the couple found they had no means of communication and little in common.

Miss Taylor spent one year at the Mission School teaching Eskimo and Loucheux Indian children, and a second term at the Government Day School. She explains everything from the sewer system to the trapping of muskrats in minute detail, presumably for the enlightenment of English readers. Although the book is almost devoid of humour her description of the winter sport of curling proves quite amusing.

The author writes most warmly when speaking of the old people and the children. However, her friends, co-workers and pupils drift rather aimlessly through the book. They all appear as pleasant people, referred to without malice and with apparent honesty.

A large number of Indian and Eskimo folk tales are included in the final chapters. These native stories painstakingly collected by Miss Taylor herself, and of deep significance, are apt to prove dull fare for the average reader, and a disappointment to those romantically inclined who were given such high hopes in the beginning pages.

Mrs. Tolboom was a teacher before she married and spent five years at isolated Arctic posts. Since returning south she writes, and relieves at schools when she can be spared from her family.

THE BUFFALO HEAD

by R. M. Patterson

The Macmillan Co., Toronto, 1961.
273 pages, illus. $5.00.

Reviewed by Gray Campbell

HERE is a book written about foothill ranching country with a subtle difference. Mr. Patterson writes of mountain men, mountain horses and high country game in cathedral settings of primitive quiet. It is odd that western Canada, with natives colourful in speech, dress and manner, does not produce a book of this quality by one of its own.

It takes a Raymond Patterson from England, via a prisoner-of-war camp in Germany and the morning-coated halls of the Bank of England to paint landscapes of our foothills and mountains with words like these:

"Bronze-coloured slopes of short grass and dwarf willow, slashed by the dark green spruce and fir; larches at timberline spearheading the dark evergreens with points of shining gold. . . ."

The Canadian west received much of its colour from England. The first Mounties marched across the plains in 1874, their ranks strengthened by the products of the English public school system with their sense of honour and fair play to which the Indians responded. They were followed by remittance men who gave more than they received and of whom Bob Edwards said, "They may have been green, but they were never yellow."

And then the west saw a generation that produced men like Patterson, intellectuals with an itchy foot and a penchant for danger. Soft spoken, gentle and kindly, Raymond Patterson could have emerged from the cloistered halls of Oxford. In fact he did.

But this amazing man also tested his manhood in the Alps, went on to discover his "Dangerous River" with its brooding mystery of death and violence. After his lonely adventure on the Nahanni River, when he tried to settle down it was to the Buffalo Head he turned, a ranch high in the foothills of the Rockies. And here he found the best of both worlds.

He sets it all down. Time has eliminated the long hours of haying and fencing. His memory shines with the remembered beauty of alpine meadows, wild flowers and game, alpine sport and adventure.

He explains his outlook best in the following lines: "To be a dyed-in-the-wool cattle rancher you had to have a single-track mind; your one idea of a fine view had to be the back end of a cow lined up between your horse's ears . . . I had seen other things in earlier years—things that kept getting in between me and that cow. They lingered in the mind's eye, just out of reach and just over the horizon's rim . . . an unmapped river, snow-powdered mountains, the dawn flooding over an unbroken, unfenced prairie that was furrowed with the buffalo trails of yesterday. . . ."

The Buffalo Head takes its place beside his epic *Dangerous River*. And it is good his passing this way has left for Canadians a record of an era fast disappearing. My hat is off to him for a fine story.

Mr. Campbell, ex-RCMP and ex-RAF, ranched in the same area as R. M. Patterson for twelve years before moving to Vancouver Island and free-lance writing.

CANADIAN WINTER

by Donovan Clemson

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